YAMAHA

YSR50T

Service Manual

YSR50T
SERVICE MANUAL

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NOTICE

This manual was written by the Yamaha Motor Company primarily for use by Yamaha dealers and their qualified mechanics. It is not possible to put an entire mechanic's education into one manual, so it is assumed that persons using this book to perform maintenance and repairs on Yamaha motorcycles have a basic understanding of the mechanical concepts and procedures inherent in motorcycle repair technology. Without such knowledge, attempted repairs or service to this model may render it unfit to use and/or unsafe.

Yamaha Motor Company, Ltd. is continually striving to improve all models manufactured by Yamaha. Modifications and significant changes in specifications or procedures will be forwarded to all Authorized Yamaha dealers and will, where applicable, appear in future editions of this manual.

TECHNICAL PUBLICATIONS
SERVICE DIVISION
MOTORCYCLE OPERATIONS
YAMAHA MOTOR CO., LTD.

HOW TO USE THIS MANUAL

PARTICULARLY IMPORTANT INFORMATION

This material is distinguished by the following notation.

NOTE: A NOTE provides key information to make procedures easier or clearer.

CAUTION: A CAUTION indicates special procedures that must be followed to avoid damage to the motorcycle.

WARNING: A WARNING indicates special procedures that must be followed to avoid injury to a motorcycle operator or person inspecting or repairing the motorcycle.

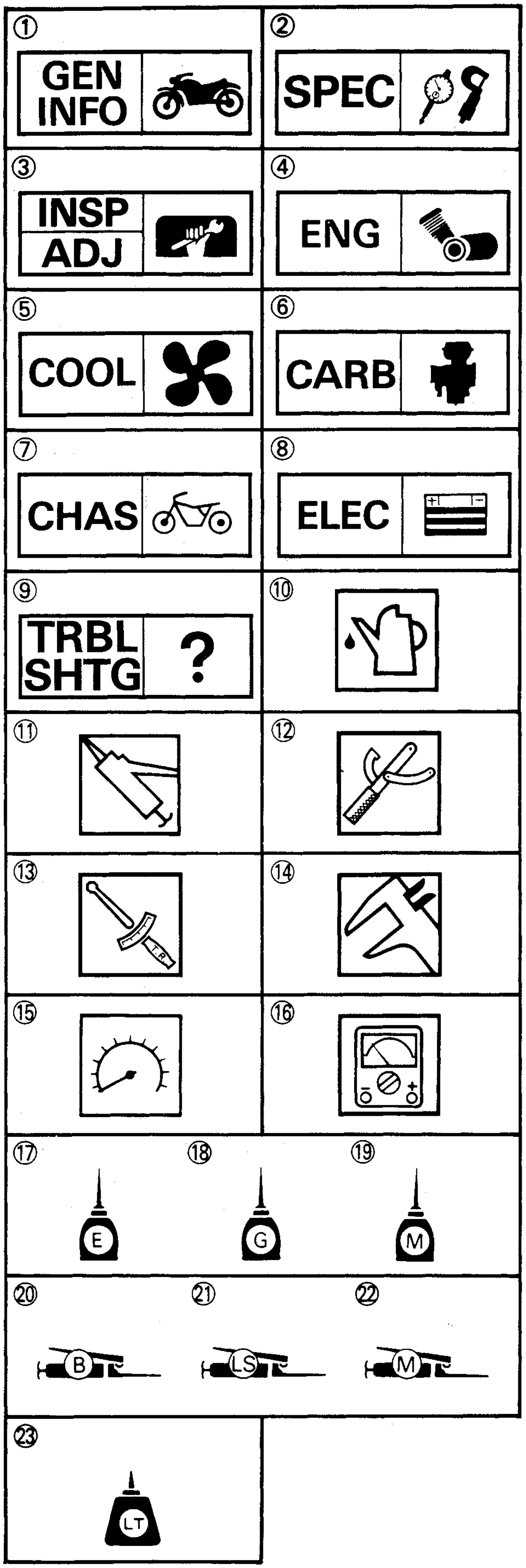
MANUAL FORMAT

All of the procedures in this manual are organized in a sequential, step-by-step format. The information has been compiled to provide the mechanic with an easy to read, handy reference that contains comprehensive explanations of all disassembly, repair, assembly, and inspection operations.
In this revised format, the condition of a faulty component will precede an arrow symbol and the course of action required will follow the symbol, e.g.,

- Bearings
  Pitting/Damage→Replace.

EXPLODED DIAGRAM

Each chapter provides exploded diagrams before each disassembly section for ease in identifying correct disassembly and assembly procedures.



ILLUSTRATED SYMBOLS
(Refer to the illustration)

Illustrated symbols ① to ⑨ are designed as thumb tabs to indicate the chapter's number and content.

① General information
② Specifications
③ Periodic inspection and adjustment
④ Engine
⑤ Cooling system
⑥ Carburetion
⑦ Chassis
⑧ Electrical
⑨ Troubleshooting

Illustrated symbols ⑩ to ⑯ are used to identify the specifications appearing in the text.

⑩ Filling fluid
⑪ Lubricant
⑫ Special tool
⑬ Tightening
⑭ Wear limit, clearance
⑮ Engine speed
⑯ Ω, V, A

Illustrated symbols ⑰ to ㉓ in the exploded diagram indicate grade of lubricant and location of lubrication point.

⑰ Apply engine oil
⑱ Apply gear oil
⑲ Apply molybdenum disulfide oil
⑳ Apply wheel bearing grease
㉑ Apply lightweight lithium-soap base grease
㉒ Apply molybdenum disulfide grease
㉓ Apply locking agent (LOCTITE®)

INDEX

GENERAL INFORMATION — GEN INFO 1

SPECIFICATIONS — SPEC 2

PERIODIC INSPECTION AND ADJUSTMENT — INSP ADJ 3

ENGINE OVERHAUL — ENG 4

CARBURETION — CARB 5

CHASSIS — CHAS 6

ELECTRICAL — ELEC 7

TROUBLESHOOTING — TRBL SHTG 8

CONTENTS

CHAPTER 1. GENERAL INFORMATION

MOTORCYCLE IDENTIFICATION 1-1
VEHICLE IDENTIFICATION NUMBER 1-1
ENGINE SERIAL NUMBER 1-1

IMPORTANT INFORMATION 1-2
PREPARATION FOR REMOVAL AND DISASSEMBLY 1-2
ALL REPLACEMENT PARTS 1-3
GASKETS, OIL SEALS, AND O-RINGS 1-3
LOCK WASHERS/PLATE AND COTTER PINS 1-3
BEARINGS AND OIL SEALS 1-3
CIRCLIPS 1-4

SPECIAL TOOLS 1-4
FOR TUNE UP 1-4
FOR ENGINE SERVICE 1-5
FOR CHASSIS SERVICE 1-6
FOR ELECTRICAL COMPONENTS 1-7

CHAPTER 2. SPECIFICATIONS

GENERAL SPECIFICATIONS 2-1

MAINTENANCE SPECIFICATIONS 2-4
ENGINE 2-4
CHASSIS 2-8
ELECTRICAL 2-11

GENERAL TORQUE SPECIFICATIONS 2-14

DEFINITION OF UNITS 2-14

ENGINE 2-15
CHASSIS 2-15

CABLE ROUTING 2-16

CHAPTER 3.
PERIODIC INSPECTION AND ADJUSTMENT

INTRODUCTION 3-1

PERIODIC MAINTENANCE/LUBRICATION INTERVALS 3-1

COWLINGS REMOVAL AND INSTALLATION 3-3
- COWLINGS 3-3
- SIDE COVER 3-4

ENGINE 3-4
- IDLE SPEED ADJUSTMENT 3-4
- THROTTLE CABLE FREE PLAY ADJUSTMENT 3-5
- AUTOLUBE PUMP CABLE ADJUSTMENT 3-5
- AUTOLUBE PUMP STROKE ADJUSTMENT 3-6
- AUTOLUBE PUMP AIR BLEEDING 3-8
- SPARK PLUG INSPECTION 3-9
- IGNITION TIMING CHECK 3-10
- ENGINE OIL LEVEL CHECK 3-10
- TRANSMISSION OIL LEVEL INSPECTION 3-11
- TRANSMISSION OIL REPLACEMENT 3-12
- CLUTCH ADJUSTMENT 3-13
- AIR FILTER CLEANING 3-14
- CARBURETOR JOINT INSPECTOIN 3-16
- FUEL LINE INSPECTION 3-17
- Y.E.I.S. HOSE INSPECTION 3-17
- EXHAUST SYSTEM INSPECTION 3-17

CHASSIS 3-17
- FRONT BRAKE ADJUSTMENT 3-17
- REAR BRAKE ADJUSTMENT 3-18
- BRAKE FLUID INSPECTION 3-18
- BRAKE PAD INSPECTION 3-19
- BRAKE SHOE INSPECTION 3-19
- BRAKE LIGHT SWITCH ADJUSTMENT 3-19
- BRAKE HOSE INSPECTION 3-19
- DRIVE CHAIN SLACK ADJUSTMENT 3-20
- DRIVE CHAIN LUBRICATION 3-21
- STEERING HEAD ADJUSTMENT 3-21
- TIRE INSPECTION 3-23
- WHEEL INSPECTION 3-24
- CABLE INSPECTION AND LUBRICATION 3-24
- LEVER AND PEDAL LUBRICATION 3-25
- SIDESTAND LUBRICATION 3-25

ELECTRICAL 3-26
- BATTERY INSPECTION 3-26
- FUSE INSPECTION 3-28
- HEADLIGHT BEAM ADJUSTMENT 3-29
- HEADLIGHT REPLACEMENT 3-29

CHAPTER 4.
ENGINE OVERHAUL

ENGINE REMOVAL 4-1
- TRANSMISSION OIL 4-1
- COWLING AND SIDE COVER 4-1
- FUEL TANK 4-1
- MUFFLER 4-2
- CARBURETOR 4-2
- AUTOLUBE PUMP CABLE AND HOSE 4-2
- LEADS 4-3
- CLUTCH CABLE 4-3
- DRIVE CHAIN 4-3
- ENGINE REMOVAL 4-4

ENGINE DISASSEMBLY 4-5
- CYLINDER HEAD, CYLINDER AND PISTON 4-5
- CLUTCH AND PRIMARY DRIVE GEAR 4-6
- KICK AXLE 4-8
- SHIFT SHAFT 4-9
- CDI MAGNETO 4-9
- CRANKCASE 4-10
- TRANSMISSION, SHIFTER AND CRANKSHAFT 4-11

INSPECTION AND REPAIR 4-13
- CYLINDER HEAD 4-13
- CYLINDER AND PISTON 4-13
- PISTON RINGS 4-15
- PISTON PIN AND BEARING 4-16
- CLUTCH 4-17
- KICK STARTER .... [illegible]
- SHIFT SHAFT 4-19
- TRANSMISSION AND SHIFTER 4-20
- CRANKSHAFT 4-21
- CRANKCASE 4-22
- AUTOLUBE PUMP 4-22

ENGINE ASSEMBLY AND ADJUSTMENT 4-24
- CRANKSHAFT, SHIFTER AND TRANSMISSION 4-24
- CRANKCASE 4-25
- CDI MAGNETO 4-30
- SHIFT SHAFT 4-32

KICK AXLE 4-32
CLUTCH AND PRIMARY DRIVE GEAR 4-34
CYLINDER HEAD, CYLINDER AND PISTON 4-37
REMOUNTING ENGINE 4-40

CHAPTER 5.
CARBURETION

CARBURETOR 5-1
REMOVAL 5-2
DISASSEMBLY 5-2
INSPECTION 5-4
ASSEMBLY 5-5
INSTALLATION 5-6
ADJUSTMENT 5-7

REED VALVE 5-8
REMOVAL 5-8
INSPECTION 5-8
INSTALLATION 5-9

CHAPTER 6.
CHASSIS

FRONT WHEEL 6-1
REMOVAL 6-2
INSPECTION 6-2
INSTALLATION 6-4

REAR WHEEL 6-5
REMOVAL 6-6
INSPECTION 6-6
INSTALLATION 6-8

FRONT BRAKE 6-10
BRAKE PAD REPLACEMENT 6-11
CALIPER DISASSEMBLY 6-13
MASTER CYLINDER DISASSEMBLY 6-14
INSPECTION AND REPAIR 6-15
ASSEMBLY 6-16
AIR BLEEDING 6-19

FRONT FORK 6-20
REMOVAL 6-21
DISASSEMBLY 6-21
INSPECTION 6-23
ASSEMBLY 6-23
INSTALLATION 6-26

STEERING HEAD AND HANDLEBAR 6-27
REMOVAL 6-28
INSPECTION 6-29
INSTALLATION 6-30

REAR SHOCK ABSORBER AND SWINGARM 6-33
REMOVAL 6-34
DISASSEMBLY 6-35
INSPECTION 6-35
ASSEMBLY 6-36
INSTALLATION 6-36

DRIVE CHAIN AND SPROCKETS 6-38
REMOVAL 6-38
INSPECTION 6-38
INSTALLATION 6-39

CHAPTER 7.
ELECTRICAL

YSR50T CIRCUIT DIAGRAM 7-1
COLOR CODE 7-2

ELECTRICAL COMPONENTS 7-3

IGNITION AND STARTING SYSTEM 7-4
IGNITION CONTROL CIRCUIT OPERATION 7-6
TROUBLESHOOTING 7-7

CHARGING SYSTEM 7-16
TROUBLESHOOTING 7-18

LIGHTING SYSTEM 7-22
TROUBLESHOOTING (1) 7-24
TROUBLESHOOTING (2) 7-27

SIGNAL SYSTEM 7-30
TROUBLESHOOTING 7-32

DISPLAY SYSTEM 7-42
TROUBLESHOOTING (1) 7-44
TROUBLESHOOTING (2) 7-48
DISPLAY SYSTEM TEST AND CHECK 7-50

CHAPTER 8.
TROUBLESHOOTING

STARTING FAILURE/HARD STARTING 8-1
FUEL SYSTEM 8-1
ELECTRICAL SYSTEM 8-2
COMPRESSION SYSTEM 8-3

POOR IDLE SPEED PERFORMANCE 8-3
- POOR IDLE SPEED PERFORMANCE 8-3

POOR MEDIUM AND HIGH SPEED PERFORMANCE 8-4
- FUEL SYSTEM 8-4
- ELECTRICAL SYSTEM 8-4
- COMPRESSION SYSTEM 8-5

FAULTY GEAR SHIFTING 8-6
- HARD SHIFTING 8-6
- CHANGE PEDAL DOES NOT MOVE 8-6
- JUMP-OUT GEAR 8-6

CLUTCH SLIPPING/DRAGGING 8-7
- CLUTCH SLIPPING 8-7
- CLUTCH DRAGGING 8-7

IMPROPER KICKING 8-8
- SLIPPING 8-8
- HARD KICKING 8-8
- KICK CRANK NOT RETURNING 8-8

FAULTY BRAKE 8-9
- POOR BRAKING EFFECT 8-9

FRONT FORK OIL LEAKAGE AND FRONT FORK MALFUNCTION 8-9
- OIL LEAKAGE 8-9
- MALFUNCTION 8-9

INSTABLE HANDLING 8-10
- INSTABLE HANDLING 8-10

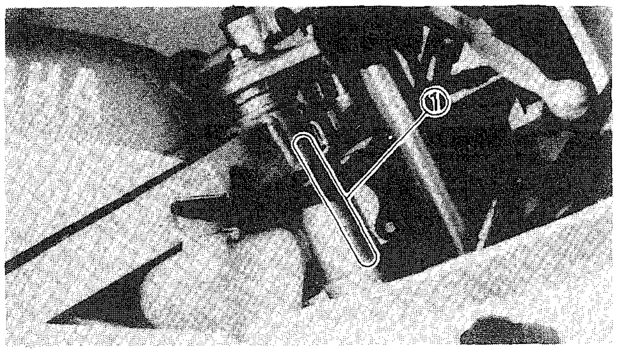
FAULTY SIGNAL AND LIGHTING SYSTEM 8-11
- HEADLIGHT DARK 8-11
- BULB BURNT OUT 8-11
- FLASHER DOES NOT LIGHT 8-11
- FLASHER KEEPS ON 8-11
- FLASHER WINKS SLOWER 8-12
- FLASHER WINKS QUICKER 8-12
- HORN IS INOPERATIVE 8-12

OVERHEATING 8-13
- OVERHEATING 8-13

YSR50T WIRING DIAGRAM

GENERAL INFORMATION

MOTORCYCLE IDENTIFICATION



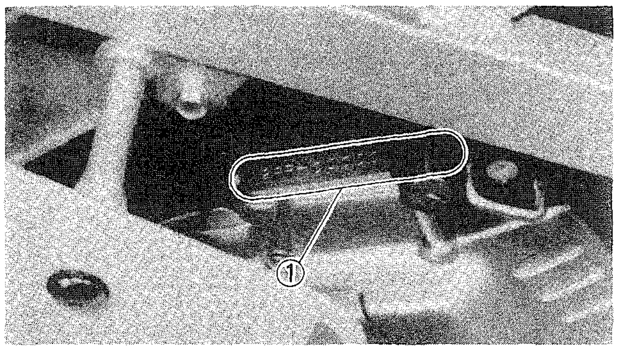
VEHICLE IDENTIFICATION NUMBER

The vehicle identification number ① is stamped into the steering head pipe.

Starting Serial Number:	
YSR50T	JYA2RR00*HA000101

NOTE:

The vehicle identification number is used to identify your motorcycle and may be used to register your motorcycle with the licensing authority in your state.



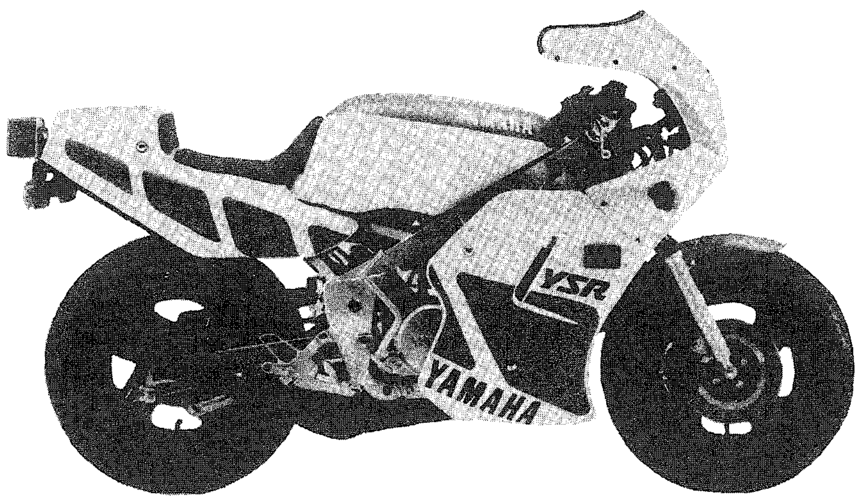
ENGINE SERIAL NUMBER

The engine serial number ① is stamped into the left side of the engine.

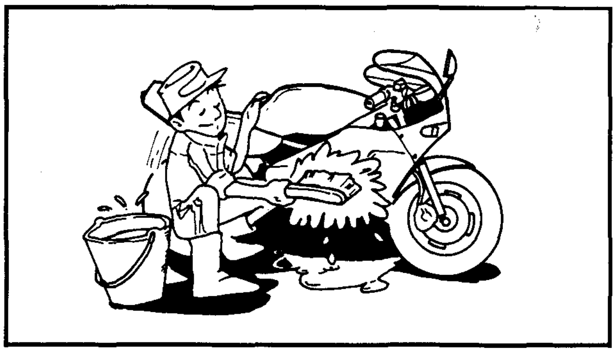
Starting Serial Number:	
YSR50T..................	2RR-000101

NOTE:

- The first three digits of these numbers are for model identifications; the remaining digits are the unit production number.
- Designs and specifications are subject to change without notice.

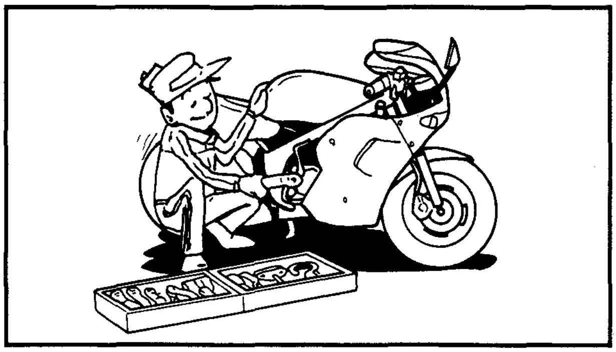


IMPORTANT INFORMATION

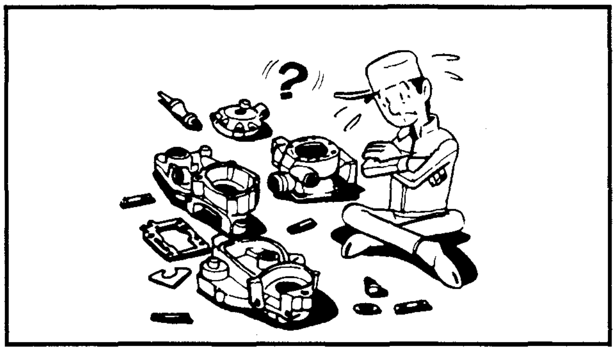


PREPARATION FOR REMOVAL AND DISASSEMBLY

1. Remove all dirt, mud, dust, and foreign material before removing and disassembling.

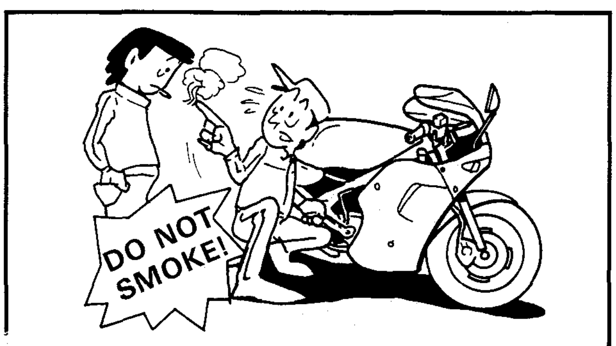


2. Use proper tools and cleaning equipment. Refer to "SPECIAL TOOL."



3. When disassembling the motorcycle, keep mated parts together. This includes gears, cylinders, pistons, and other mated parts that have been "mated" through normal wear. Mated parts must be reused as an assembly or replaced.

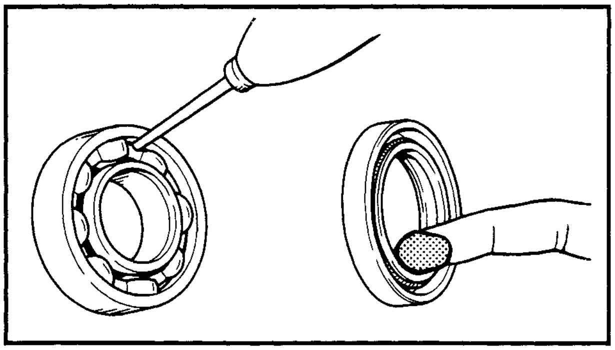
4. During the motorcycle disassembly, clean all parts and place them in trays in the order of disassembly. This will speed up assembly time and help assure that all parts are correctly reinstalled.



5. Keep away from fire.

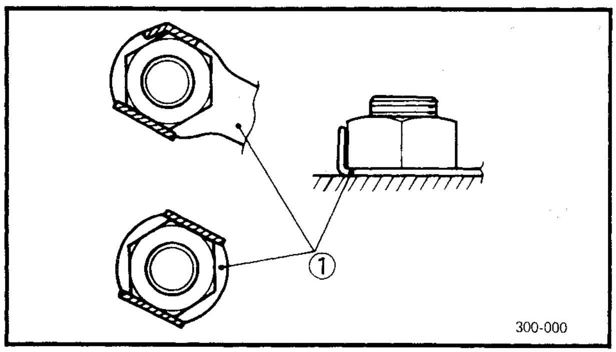
ALL REPLACEMENT PARTS

1. We recommend to use Yamaha genuine parts for all replacements. Use oil and/or grease recommended by Yamaha for assembly and adjustment.



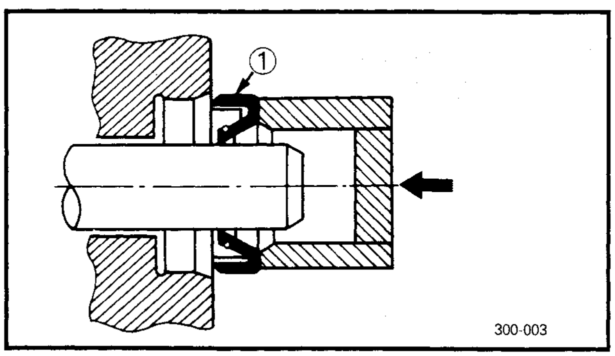
GASKETS, OIL SEALS, AND O-RINGS

1. All gaskets, seals and O-rings should be replaced when an engine is overhauled. All gasket surfaces, oil seal lips and O-rings must be cleaned.
2. Properly oil all mating parts and bearings during reassembly. Apply grease to the oil seal lips.



LOCK WASHERS/PLATES AND COTTER PINS

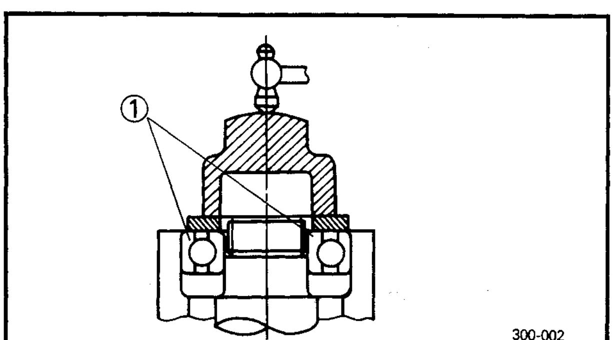
1. All lock washers/Plates ① and cotter pins must be replaced when they are removed. Lock tab(s) should be bent along the bolt or nut flat(s) after the bolt or nut has been properly tightened.



BEARINGS AND OIL SEALS

1. Install the bearing(s) and oil seal(s) with their manufacturer's marks or numbers facing outward. (In other words, the stamped letters must be on the side exposed to view.) When installing oil seal(s), apply a light coating of light-weight lithium base grease to the seal lip(s). Oil the bearings liberally when installing.

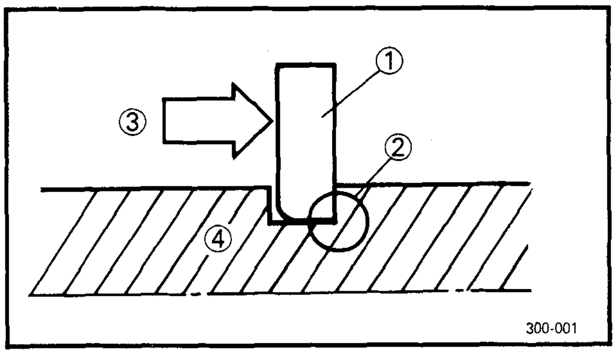
① Oil seal



CAUTION:

Do not use compressed air to spin the bearings dry. This causes damage to the bearing surfaces.

① Bearing



CIRCLIPS

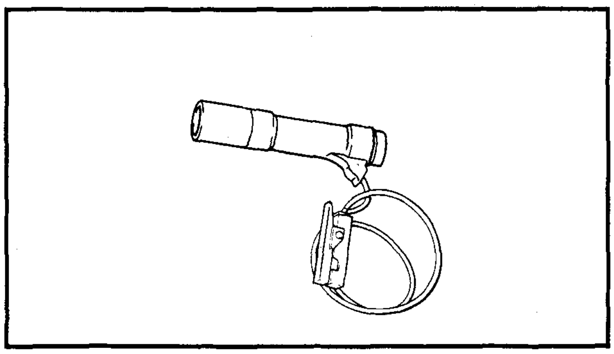
1. All circlips should be inspected carefully before reassembly. Always replace piston pin clips after one use. Replace distorted circlips. When installing a circlip ①, make sure that the sharp edged corner ② is positioned opposite to the thrust ③ it receives. See the sectional view.

④ Shaft

SPECIAL TOOLS

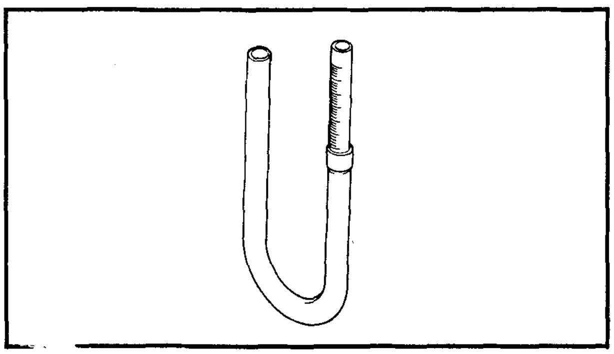
The proper special tools are necessary for complete and accurate tune-up and assembly. Using the correct special tool will help prevent damage caused by the use of improper tools or improvised techniques.

FOR TUNE UP



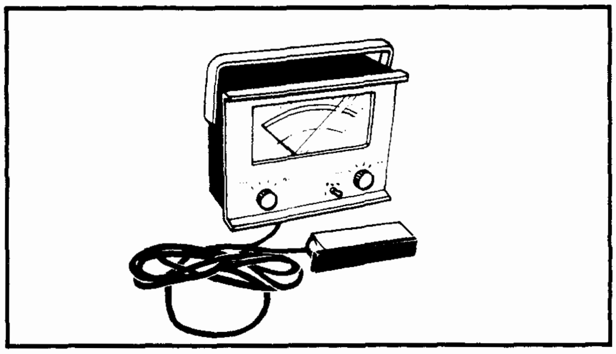
1. Inductive Timing Light
   P/N. YM-33277

This tool is necessary for adjusting ignition timing.



2. Fuel Level Gauge
   P/N. YM-01312

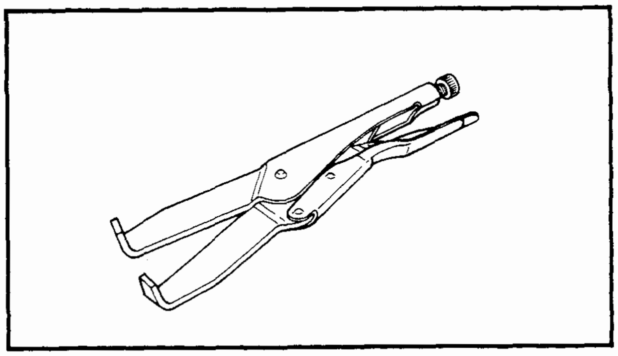
This gauge is used to measure the fuel level in the float chamber.



3. Inductive Tachometer
   P/N. YU-08036

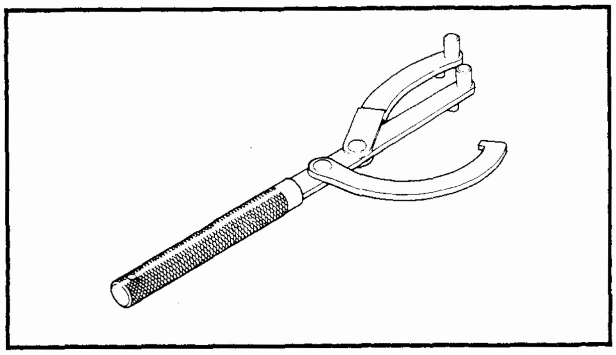
This tool is needed for detecting engine rpm.

FOR ENGINE SERVICE



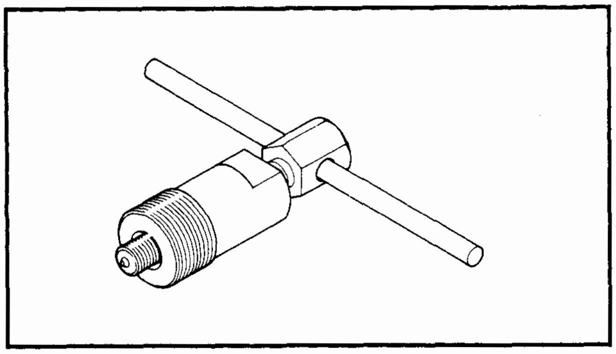
1. Universal Clutch Holder
   P/N. YM-91042

This tool is used to hold the clutch when loosening or tightening the clutch boss locknut.



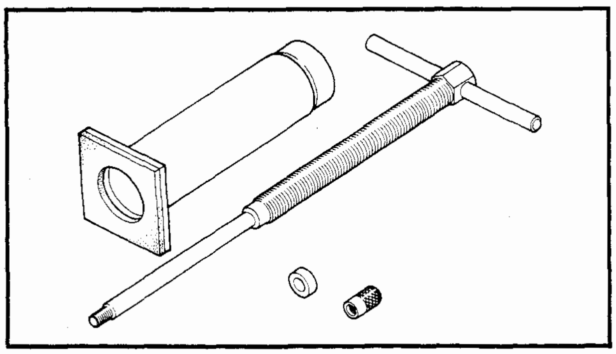
2. Universal Rotor Holder
   P/N. YU-01235

This tool is used when loosening or tightening the flywheel magneto securing bolt.



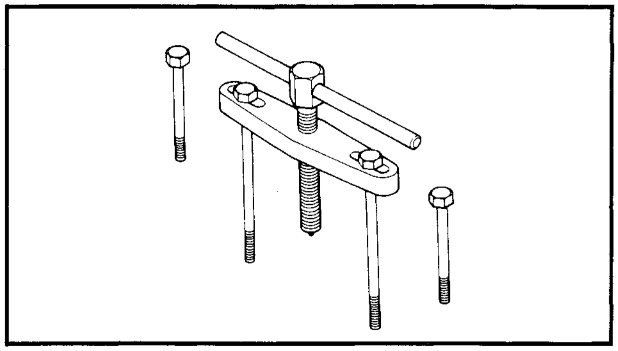
3. Flywheel Puller
   P/N. YM-01189

This tool is used for removing the flywheel.



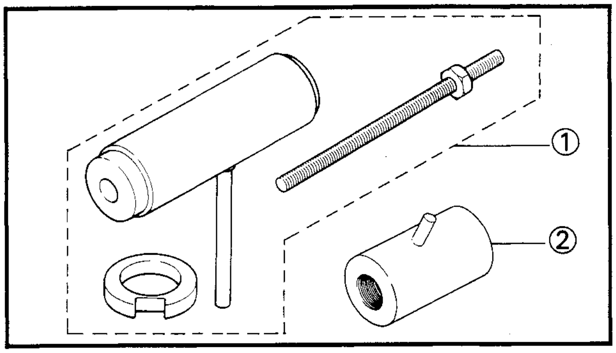
4. Piston Pin Puller
   P/N. YU-01304

This tool is used to remove the piston pin.



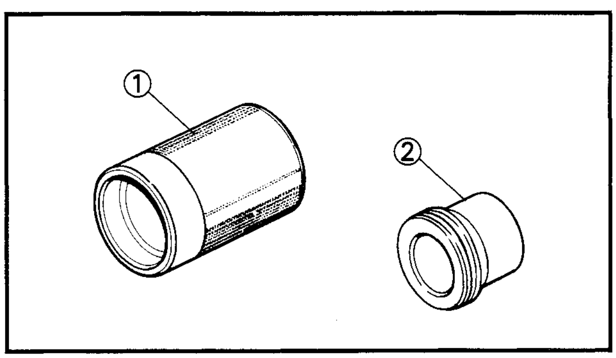
5. Crankcase Separating Tool
   P/N. YU-01135

This tool is used to split the crankcases as well as remove the crankshaft from either case.



6. Crankshaft Installing Tool . . . . ①
   P/N. YU-90050
   Adapter . . . . ②
   P/N. YM-90063

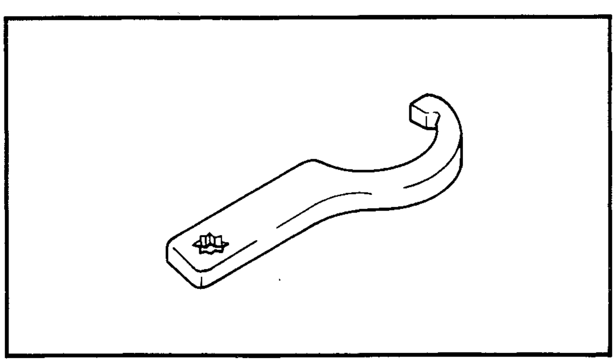
These tools are used to install the crankshaft.



FOR CHASSIS SERVICE

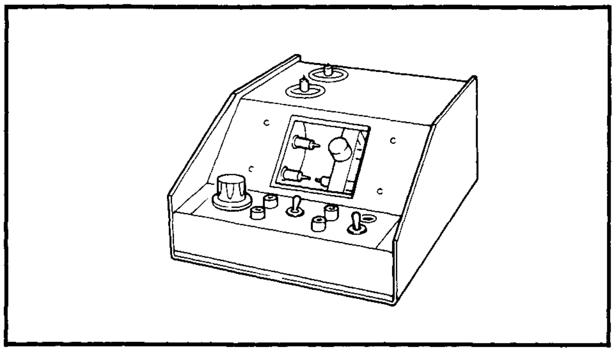
1. Front Fork Seal Driver (Weight) . . . . ①
   P/N. YM-33963
   Adapter . . . . ②
   P/N. YM-33281

This tool is used when installing the fork seal.



2. Ring Nut Wrench
   P/N. YU-33975

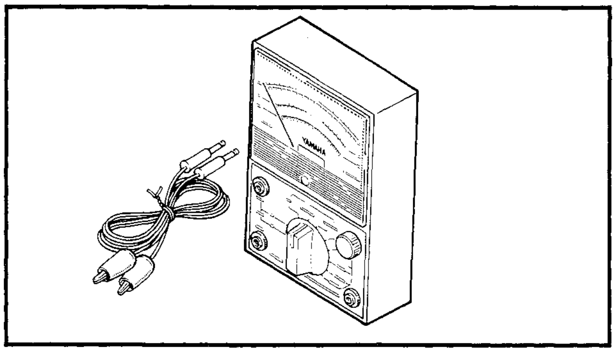
This tool is used to loosen and tighten the steering ring nut.



FOR ELECTRICAL COMPONENTS

1. Coil Tester
   P/N. YU-33261

This tester is necessary for checking the ignition system components.



2. Pocket Tester
   P/N. YU-03112

This tester is invaluable for checking the electrical system.

SPECIFICATIONS

GENERAL SPECIFICATIONS

Model	YSR50T
Model Code Number:	2RR
Vehicle Identification Number:	JYA2RR00*HA000101
Engine Starting Number	2RR-000101
Dimensions: Overall Length Overall Width Overall Height Seat Height Wheelbase Minimum Ground Clearance	 1,630 mm (64.2 in) 635 mm (25.0 in) 930 mm (36.6 in) 660 mm (26.0 in) 1,055 mm (41.5 in) 120 mm (4.7 in)
Basic Weight: With Oil and Full Fuel Tank	 91 kg (201 lb)
Minimum Turning Radius:	2,400 mm (94.5 in)
Engine: Engine Type Induction System Cylinder Arrangement Displacement Bore × Stroke Compression Ratio Starting System	 Air cooled 2-stroke Reed valve Forward inclined single cylinder 49.3 cm^3 40.0 × 39.2 mm (1.57 × 1.54 in) 7.4 : 1 Kick starter
Lubrication System: Type Engine Oil Type Transmission Oil Type	 Separate lubrication (Yamaha Autolube) Yamalube "2" or air cooled 2 stroke engine oil with "BIA certified for service TC-W" Yamalube "4", SAE 10W30 type SE motor oil or "GL" gear oil
Oil Capacity: Engine Oil (Oil Tank) Transmission Oil: Periodic Oil Change Total Amount	 0.73 L (0.64 Imp qt, 0.77 US qt) 0.60 L (0.53 Imp qt, 0.63 US qt) 0.65 L (0.57 Imp qt, 0.69 US qt)
Air Filter Type	 Wet type element

2

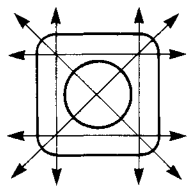
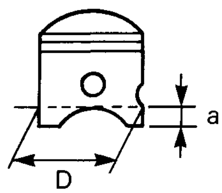
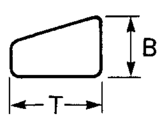
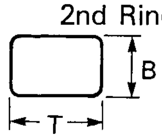
Model	YSR50T	
Fuel:		
Type	Regular gasoline	
Fuel Tank Capacity		
Full Amount	8.0 L (1.76 Imp gal, 2.11 US gal)	
Reserve Amount	1.5 L (0.33 Imp gal, 0.39 US gal)	
Carburetor:		
Type/Quantity	VM16SH/1 pc.	
Manufacturer	MIKUNI	
Spark Plug:		
Type/Quantity	B7HS or B8HS	
Manufacturer	NGK	
Plug Gap	0.5 ~ 0.6 mm (0.020 ~ 0.024 in)	
Clutch:		
Type	Wet, multiple disc	
Transmission:		
Type	Constant mesh 5-speed	
Primary Reduction System	Helical gear	
Primary Reduction Ratio	68/19 (3.579)	
Secondary Reduction System	Chain drive	
Secondary Reduction Ratio	44/12 (3.667)	
Operation	Left foot operation	
Gear Ratio		
1st	39/12 (3.250)	
2nd	34/17 (2.000)	
3rd	30/21 (1.429)	
4th	27/24 (1.125)	
5th	25/26 (0.962)	
Chassis:		
Frame Type	Double cradle	
Caster Angle	25.3°	
Trail	64 mm (2.52 in)	
Tire:		
Type	Tubeless	
Size		
Front	3.50-12 2PR	
Rear	4.00-12 2PR	
Tire Pressure (Cold Tire):		
Basic Weight:		
With Oil and Full Fuel Tank	91 kg (201 lb)	
Maximum Load*	68 kg (150 lb)	
Cold Tire Pressure:	FRONT	REAR
Zero ~ Maximum Load*	130 kPa (1.3 kg/cm^2, 18 psi)	150 kPa (1.5 kg/cm^2, 21 psi)

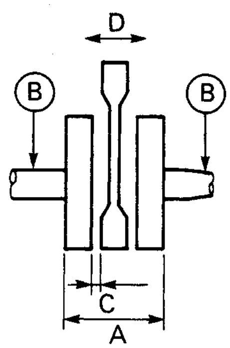
* Load is total weight of cargo, rider, and accessories.

Model	YSR50T
Brake:	
Front Brake Type	Single disc brake
Front Brake Operation	Right hand operation
Rear Brake Type	Drum brake
Rear Brake Operation	Right foot operation
Suspension:	
Front Suspension Type	Telescopic fork
Rear Suspension Type	Swingarm (Monocross suspension)
Shock Absorber:	
Front Shock Absorber	Coil spring/Oil damper
Rear Shock Absorber	Coil spring/Oil damper
Wheel Travel:	
Front Wheel Travel	90 mm (3.5 in)
Rear Wheel Travel	75 mm (3.0 in)
Electrical:	
Ignition System	CDI Magneto
Generator System	Flywheel magneto
Battery:	
Type	6N4-2A-2
Capacity	6V4AH
Headlight:	
Type	Sealed beem
Bulb Wattage (Quantity):	
Headlight	6V 25W/25W (1 pc.)
Tail/Brake Light	6V 25W/5.3W (2 pcs.)
Flasher Light	6V 17W (4 pcs.)
Licence Light	6V 5.3W (1 pc.)
Meter Light	6V 3W (2 pcs.)
"NEUTRAL" Indicator Light	6V 3W (1 pc.)
"HIGH BEAM" Indicator Light	6V 3W (1 pc.)
"TURN" Indicator Light	6V 3W (1 pc.)
"OIL" Warning Indicator Light (Light Emitting Diode)	3W or so (1 pc.)

MAINTENANCE SPECIFICATIONS

ENGINE

Model	YSR50T
Cylinder Head: Warpage Limit 	0.02 mm (0.001 in) *Lines indicate straightedge measurement.
Cylinder: Bore Size Taper Limit Out of Round Limit	 40.00 ~ 40.02 mm (1.575 ~ 1.576 in) 0.05 mm (0.002 in) 0.01 mm (0.0004 in)
Piston: Piston Size "D" Measuring Point "a" 	 39.96 ~ 39.98 mm (1.573 ~ 1.574 in) 5 mm (0.20 in)
Piston Off-Set Piston-to-Cylinder Clearance <Limit> Oversize 1st Oversize 2nd	0.2 mm (0.008 in) 0.030 ~ 0.035 mm (0.0012 ~ 0.0014 in) <0.1 mm (0.004 in)> 40.25 mm (1.58 in) 40.50 mm (1.59 in)
Piston Ring: Sectional Sketch — Top Ring 	 Keystone type B = 1.2 mm (0.047 in) T = 1.6 mm (0.063 in)
2nd Ring 	Plain type B = 1.2 mm (0.047 in) T = 1.6 mm (0.063 in)
End Gap (Installed) — Top Ring	0.15 ~ 0.35 mm (0.006 ~ 0.014 in)
2nd Ring	0.15 ~ 0.35 mm (0.006 ~ 0.014 in)
Side Clearance — Top Ring	0.03 ~ 0.05 mm (0.001 ~ 0.002 in)
2nd Ring	0.03 ~ 0.05 mm (0.001 ~ 0.002 in)

Model	YSR50T
Crankshaft:	
Crank Width "A"	37.90 ~ 37.95 mm (1.492 ~ 1.494 in)
Runout Limit "B"	0.03 mm (0.0012 in)
Big End Side Clearance "C"	0.2 ~ 0.7 mm (0.008 ~ 0.028 in)
<Limit>	< 1.0 mm (0.04 in) >
Small End Free Play "D"	0.8 ~ 1.0 mm (0.032 ~ 0.039 in)
<Limit>	< 1.5 mm (0.06 in) >
	
Clutch:	
Friction Plate:	
Thickness	3.5 mm (0.138 in)
Quantity	2 pcs.
Wear Limit	2.7 mm (0.106 in)
Clutch Plate:	
Thickness	2.0 mm (0.079 in)
Quantity	1 pc.
Warpage Limit	0.05 mm (0.002 in)
Clutch Spring:	
Free Length	28.2 mm (1.11 in)
Quantity	4 pcs.
Minimum Free Length	26.2 mm (1.03 in)
Clutch Release Method	Inner push, cam push
<Push Rod Bending Limit>	<0.2 mm (0.008 in)>
Transmission:	
Main Axle Runout Limit	0.08 mm (0.003 in)
Drive Axle Runout Limit	0.08 mm (0.003 in)
Shifter:	
Type	Cam drum and guide bar
Guide Bar Bending Limit	0.025 mm (0.001 in)
Kick Starter:	
Type	Kick and Mesh type

Model		YSR50T
Air Filter:		
Oil Grade		Foam-Air-Filter oil or Yamalube "2"
Carburetor:		
I.D. Mark		2AL 01
Main Jet	(M.J.)	#120
Air Jet	(A.J.)	ϕ2.5
Jet Needle-Position	(J.N.)	3G21-4
Needle Jet	(N.J.)	E-0
Cutaway	(C.A.)	2.0
Pilot Outlet	(P.O.)	ϕ0.9
Pilot Jet	(P.J.)	#17.5
Air Screw	(A.S.)	1-1/8
Valve Seat Size	(V.S.)	ϕ1.5
Starter Jet	(G.S.)	#20
Fuel Level	(F.L.)	0 ~ 1 mm (0 ~ 0.04 in)
Float Height	(F.H.)	21 ~ 23 mm (0.83 ~ 0.91 in)
Idling Speed		1,300 ~ 1,400 r/min
Reed Valve:		
Valve Thickness		0.15 mm (0.006 in)
Valve Stopper Height		6.7 ~ 7.3 mm (0.26 ~ 0.29 in)
Valve Bending Limit		0.3 mm (0.012 in)
Lubrication System:		
Autolube Pump		
Color Code		Green
Minimum Stroke		0.20 ~ 0.25 mm (0.008 ~ 0.010 in)
Maximum Stroke		1.85 ~ 2.05 mm (0.073 ~ 0.081 in)
Minimum Output		0.50 ~ 0.63 cm^3 per 200 strokes
Maximum Output		4.64 ~ 5.15 cm^3 per 200 strokes
Pulley Adjusting Mark		At idle

TIGHTENING TORQUE

Part to be tightened	Bolt/Nut size	Tightening torque		
		Nm	m•kg	ft•lb
Spark plug	M14 × 1.25	25	2.5	18
Cylinder head	M6 × 1.0	10	1.0	7.2
Autolube pump	M5 × 0.8	5	0.5	3.6
Intake manifold	M6 × 1.0	8	0.8	5.8
Muffler (Front)	M6 × 1.0	8	0.8	5.8
Muffler (Rear)	M8 × 1.25	18	1.8	13
Crankcase	M6 × 1.0	8	0.8	5.8
Crankcase cover	M6 × 1.0	10	1.0	7.2
Transmission oil drain bolt	M12 × 1.5	20	2.0	14
Autolube pump cover	M6 × 1.0	8	0.8	5.8
Kick crank assembly	M6 × 1.0	12	1.2	8.7
Primary drive gear	M12 × 1.0	60	6.0	43
Clutch boss	M12 × 1.0	45	4.5	32
Pressure plate	M5 × 0.8	6	0.6	4.3
Stopper plate (Bearing)	M6 × 1.0	10	1.0	7.2
Stopper plate (Shift cam)	M6 × 1.0	8	0.8	5.8
Shift lever adjuster nut	M8 × 1.25	25	2.5	18
Change pedal	M6 × 1.0	11	1.1	8.0
Stator	M5 × 0.8	8	0.8	5.8
CDI magneto	M12 × 1.25	70	7.0	50
Neutral switch	M10 × 1.25	4	0.4	2.9

CHASSIS

Model	YSR50T	
Steering System:		
Bearing Type	Ball Bearing	
Bearing Size (Quantity)		
Upper	3/16 in (22 pcs.)	
Lower	1/4 in (19 pcs.)	
Front Suspension:		
Front Fork Travel	90 mm (3.54 in)	
Fork Spring Free Length (Left side only)	374.2 mm (14.7 in)	
<Limit>	<367 mm (14.4 in)>	
Spring Rate (K_1)	8.2 N/mm (0.83 kg/mm, 46.6 lb/in)	
Stroke (K_1)	0.0 ~ 90.0 mm (0.0 ~ 3.5 in)	
Optional Spring	No.	
	LEFT	RIGHT
Oil Capacity	126 cm^3 (4.44 Imp oz, 4.26 US oz)	164 cm^3 (5.77 Imp oz, 5.54 US oz)
Oil Level	146 mm (5.74 in) From top of inner tube fully compressed without spring.	51 mm (2.01 in) From top of inner tube compressed without spring.
Oil Grade	Yamaha fork oil 10WT or equivalent	←
Rear Suspension:		
Shock Absorber Travel	18.0 mm (0.71 in)	
Spring Free Length	86 mm (3.4 in)	
Fitting Length	82 mm (3.2 in)	
Spring Rate (K_1)	353 N/mm (36 kg/mm, 2,020 lb/in)	
Stroke (K_1)	0.0 ~ 18 mm (0.0 ~ 0.71 in)	
Optional Spring	No.	
Swingarm:		
Free Play Limit (Swingarm end)	1.0 mm (0.039 in) Move swingarm end side to side	
Front Wheel:		
Type	Panel wheel	
Rim Size	MT2.50 × 12	
Rim Material	Steel	
Rim Runout Limit		
Vertical	2.0 mm (0.08 in)	
Lateral	2.0 mm (0.08 in)	

Model	YSR50T
Rear Wheel:	
Type	Panel wheel
Rim Size	MT2.50 × 12
Rim Material	Steel
Rim Runout Limit	
Vertical	2.0 mm (0.08 in)
Lateral	2.0 mm (0.08 in)
Drive Chain:	
Type/Manufacturer	420M/DAIDO
Number of Links	99 Links + joint
Chain Free Play	25 ~ 30 mm (1.0 ~ 1.2 in)
Front Disc Brake:	
Type	Single
Disc Outside Diameter	203 mm (8.00 in)
Disc Thickness	4.0 mm (0.16 in)
Pad Thickness	6.0 mm (0.24 in)
<Wear Limit>	<0.5 mm (0.02 in)>
Master Cylinder Inside Diameter	11.0 mm (0.433 in)
Caliper Cylinder Inside Diameter	34.9 mm (1.37 in)
Brake Fluid Type	DOT No. 3
Rear Drum Brake:	
Type	Leading, Trailing
Brake Drum Inside Diameter	110 mm (4.33 in)
<Limit>	<111 mm (4.37 in)>
Shoe Spring Free Length	50.5 mm (1.99 in)
Lining Thickness	4 mm (0.16 in)
<Limit>	<2 mm (0.08 in)>
Brake Lever and Brake Pedal:	
Brake Lever Free Play	2 ~ 5 mm (0.08 ~ 0.20 in)
Brake Pedal Free Play	20 ~ 30 mm (0.8 ~ 1.2 in) Below top of footrest
Clutch Lever and Throttle Grip:	
Clutch Lever Free Play	2 ~ 3 mm (0.08 ~ 0.12 in)
Throttle Cable Free Play	3 ~ 7 mm (0.12 ~ 0.28 in) At grip flange

TIGHTENING TORQUE

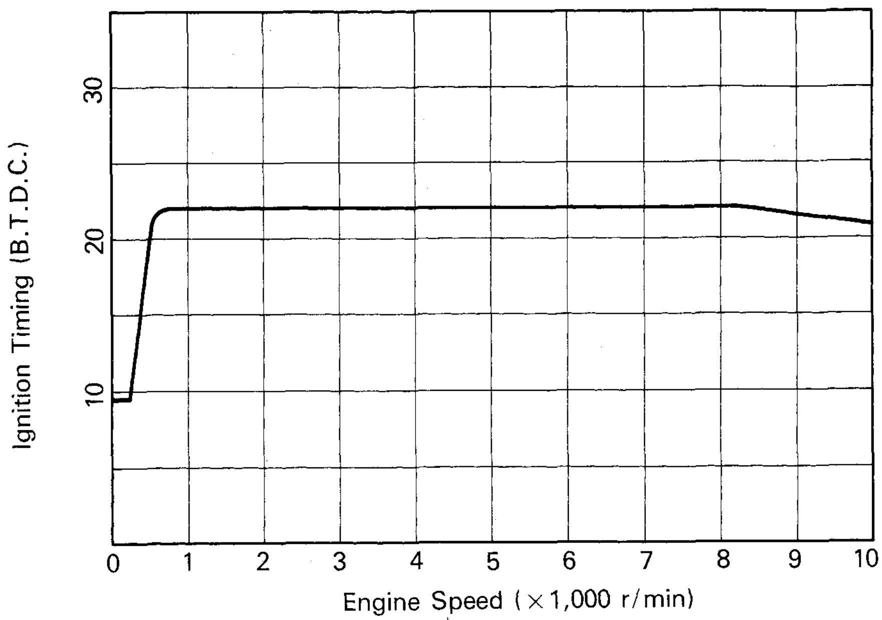
Part to be tightened	Bolt/Nut size	Q'ty	Tightening torque		
			Nm	m•kg	ft•lb
Chassis:					
Engine mounting;					
Engine stay	M 8×1.25	2	25	2.5	18
Frame and engine	M 8×1.25	3	25	2.5	18
Pivot shaft and nut	M10×1.25	1	40	4.0	
Rear shock absorber and frame	M10×1.25	1	40	4.0	29
Front fork cap bolt (Handlebar)	M21×1.0	2	55	5.5	40
Under bracket and inner tube	M10×1.25	2	30	3.0	22
Steering ring nut	M25×1.25	1	6	0.6	4.3
			Refer to NOTE		
Steering stem bolt	M10×1.25	1	40	4.0	29
Wheel hub and wheel rim	M 8×1.25	4	31	3.1	22
Front brake disc and wheel hub	M 8×1.25	4	20	2.0	14
Brake caliper and outer tube	M10×1.25	2	35	3.5	25
Front wheel axle and nut	M10×1.25	1	40	4.0	29
Brake cam lever and camshaft	M 6×1.0	1	10	1.0	7.2
Rear wheel sprocket and wheel hub	M 8×1.25	4	36	3.6	25
Tension bar and plate/frame	M 8×1.25	2	19	1.9	13
Rear wheel axle and nut	M12×1.25	1	60	6.0	43
Rear view mirror and stay	M 8×1.25	2	19	1.9	13
Brake hose union bolt	M10×1.25	2	26	2.6	19
Footrest and frame	M 8×1.25	4	25	2.5	18
Cowling stay and frame	M 8×1.25	2	19	1.9	13
Windscreen and cowling	M 5×0.8	8	0.6	0.06	0.43
CDI unit and frame	—	2	2	0.2	1.4
Rectifier/Regulator	—	1	1	0.1	0.7
Down tube and frame	M 8×1.25	6	25	2.5	18
Engine bracket (Front) and frame	M10×1.25	2	40	4.0	29
Engine bracket (Rear) and frame	M10×1.25	1	25	2.5	18

NOTE:

1. First, tighten the ring nut approximately 30 Nm (3.0 m•kg, 22 ft•lb) by using the torque wrench, then loosen the ring nut one turn.
2. Retighten the ring nut to specification.

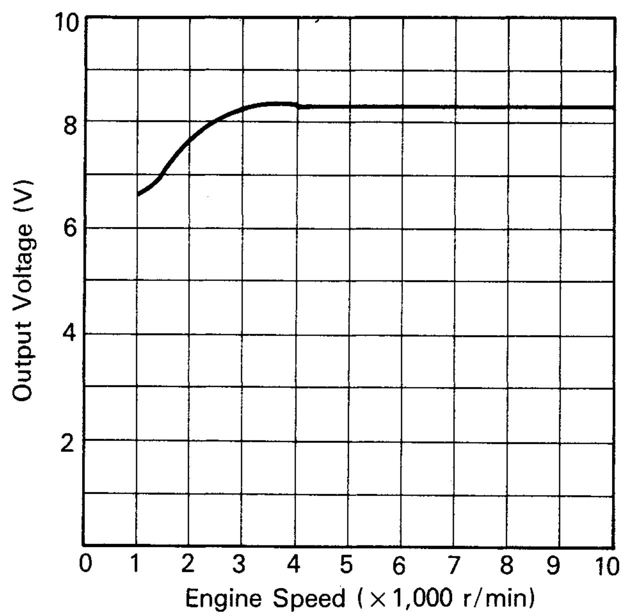
ELECTRICAL

Model	YSR50T
Voltage:	6V
Ignition System: Ignition Timing (B.T.D.C.) Advancer Type	 22° at 5,000 r/min Electrical type



C.D.I.: Magneto Model/Manufacturer C.D.I. Unit Model/Manufacturer Pickup Coil Resistance (Color) Source Coil Resistance (Color)	 2RR/YAMAHA 2GX/YAMAHA 16 ~ 24Ω at 20°C (68°F) (White/Red — Black) 264 ~ 396Ω at 20°C (68°F) (Black/Red — Black)
Ignition Coil: Model/Manufacturer Minimum Spark Gap Primary Coil Resistance Secondary Coil Resistance	 2JN/YAMAHA 6 mm (0.24 in) 0.7 ~ 1.1Ω at 20°C (68°F) 5.7 ~ 8.5kΩ at 20°C (68°F)
Spark Plug Cap: Type Plug Cap Resistance	 Resin Type 4 ~ 6kΩ at 20°C (68°F)

Model	YSR50T
Charging System:	Flywheel Magneto
C.D.I. Magneto:	
Model/Manufacturer	2RR/YAMAHA
Charging Coil Resistance (Color)	0.24 ~ 0.36Ω at 20°C (68°F) (White—Black)
Standard Output	7.4 ~ 8.2V at 5,000 r/min



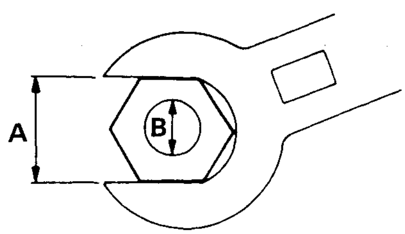
Lighting Coil Resistance (Color)	0.16 ~ 0.24Ω at 20°C (68°F) (Yellow/Red—Black)
Standard Output	6.2 ~ 7.2V at 3,000 r/min or more
Voltage Regulator:	
Model/Manufacturer	SH582-6/SHINDENGEN
Rectifier:	
Model/Manufacturer	SH582-6/SHINDENGEN
Capacity	8A
Withstand Voltage	120V
Battery:	
Specific Gravity	1.280
Horn:	
Type	Plane Type
Quantity	1 pc.
Model/Manufacturer	GF-12/NIKKO
Maximum Amperage	1.5A

Model	YSR50T
Flasher Relay:	
Type	Condenser Type
Model/Manufacturer	FZ636SD/NIPPON DENSO
Self Cancelling Device	No
Flasher Frequency	75 ~ 95 cycles/min
Wattage	17W × 2 + 3W (6V)
Oil Level Switch:	
Model/Manufacturer	3J0/STANLEY
Curcuit Breaker:	
Type	Fuse
Curcuit (Fuse):	
"MAIN"	10A (1 pc.)

GENERAL TORQUE SPECIFICATIONS

This chart specifies torque for standard fasteners with standard I.S.O. pitch threads. Torque specifications for special components or assemblies are included in the applicable sections of this book. To avoid warpage, tighten multi-fastener assemblies in a crisscross fashion, in progressive stages, until full torque is reached. Unless otherwise specified, torque specifications call for clean, dry threads. Components should be at room temperature.

A (Nut)	B (Bolt)	General torque specifications		
		Nm	m•kg	ft•lb
10 mm	6 mm	6	0.6	4.3
12 mm	8 mm	15	1.5	11
14 mm	10 mm	30	3.0	22
17 mm	12 mm	55	5.5	40
19 mm	14 mm	85	8.5	61
22 mm	16 mm	130	13.0	94



A: Distance across flats
B: Outside thread diameter

DEFINITION OF UNITS

Unit	Read	Definition	Measure
mm cm	millimeter centimeter	10^{-3} meter 10^{-2} meter	Length Length
kg	kilogram	10^3 gram	Weight
N	Newton	1 kg × m/sec^2	Force
Nm m•kg	Newton meter Meter kilogram	N × m m × kg	Torque Torque
Pa N/mm	Pascal Newton per millimeter	N/m^2 N/mm	Pressure Spring rate
L cm^3	Liter Cubic centimeter	—	Volume or capacity
r/min	Rotation per minute	—	Engine speed

LUBRICATION POINTS AND LUBRICANT TYPE

ENGINE

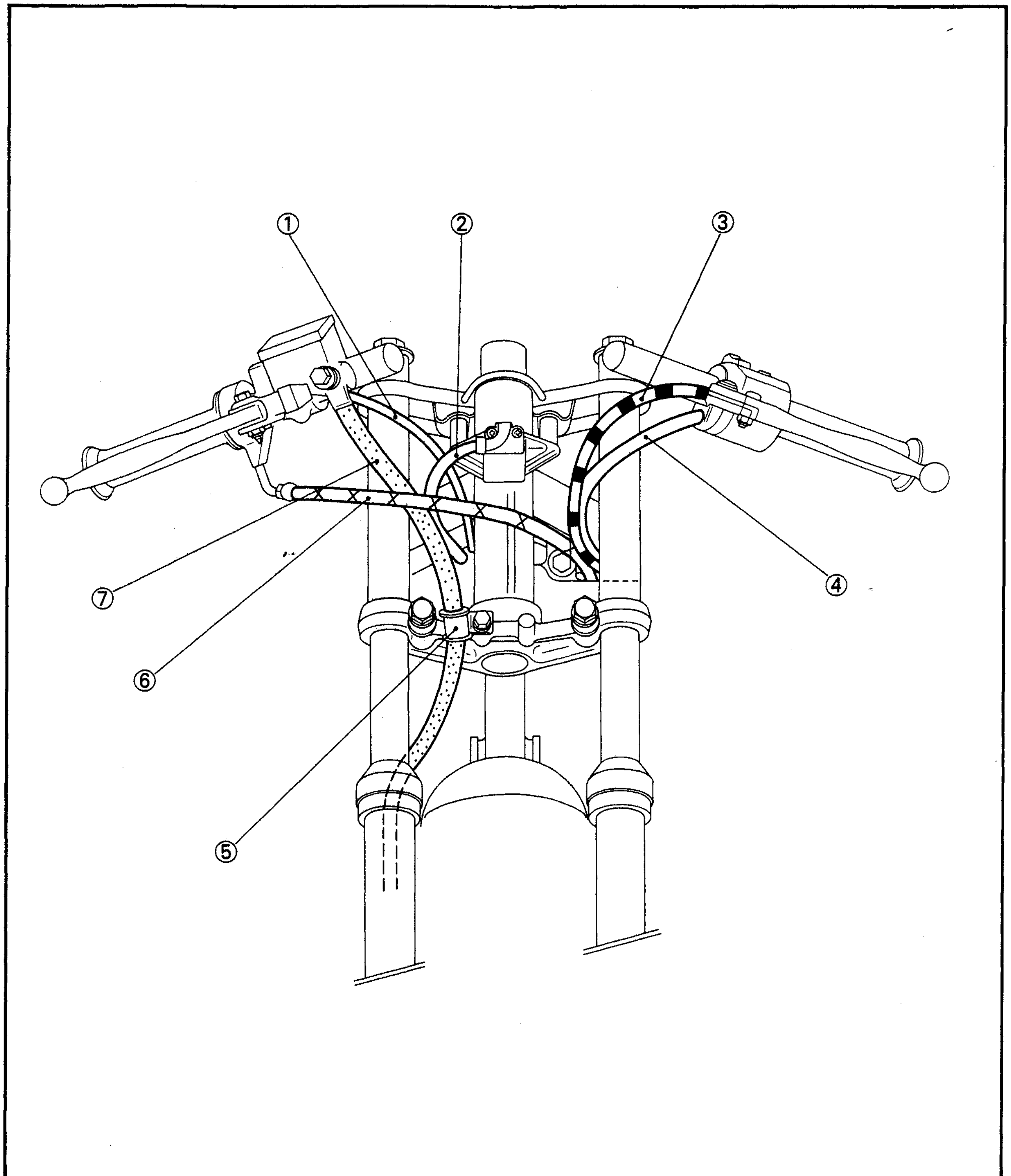
Lubrication Points (Part name)	Lubricant Type
Oil seal lip	LS
O-ring	LS
Small end/Big end bearing	E
Bearing	E
Piston ring	E
Piston	E
Cylinder inner surface	E
Piston pin	E
Kick axle	E
Primary driven/drive gear	G
Push rod	LS
Push lever	G
Pinion/Wheel gears	M
Collar (Drive axle)	G
Guide bar (Shift fork)	G
Shift shaft	G
Shift cam	G

CHASSIS

Lubrication Points (Part name)	Lubricant Type
Steering Upper/Lower balls	LS
Front/Rear wheel oil seal lip	LS
Brake cam shaft	LS
Speedometer gear unit/oil seal	LS
Brake pedal pivot	G
Rear shock absorber collar	M
Handlebar (Right) end	LS
Sidestand pivot	G
Footrest pivot	G
Clutch lever pivot/cable end	G
Brake lever pivot	G
Pin (Rear shock absorber)	LS
Pivot shaft	LS

CABLE ROUTING

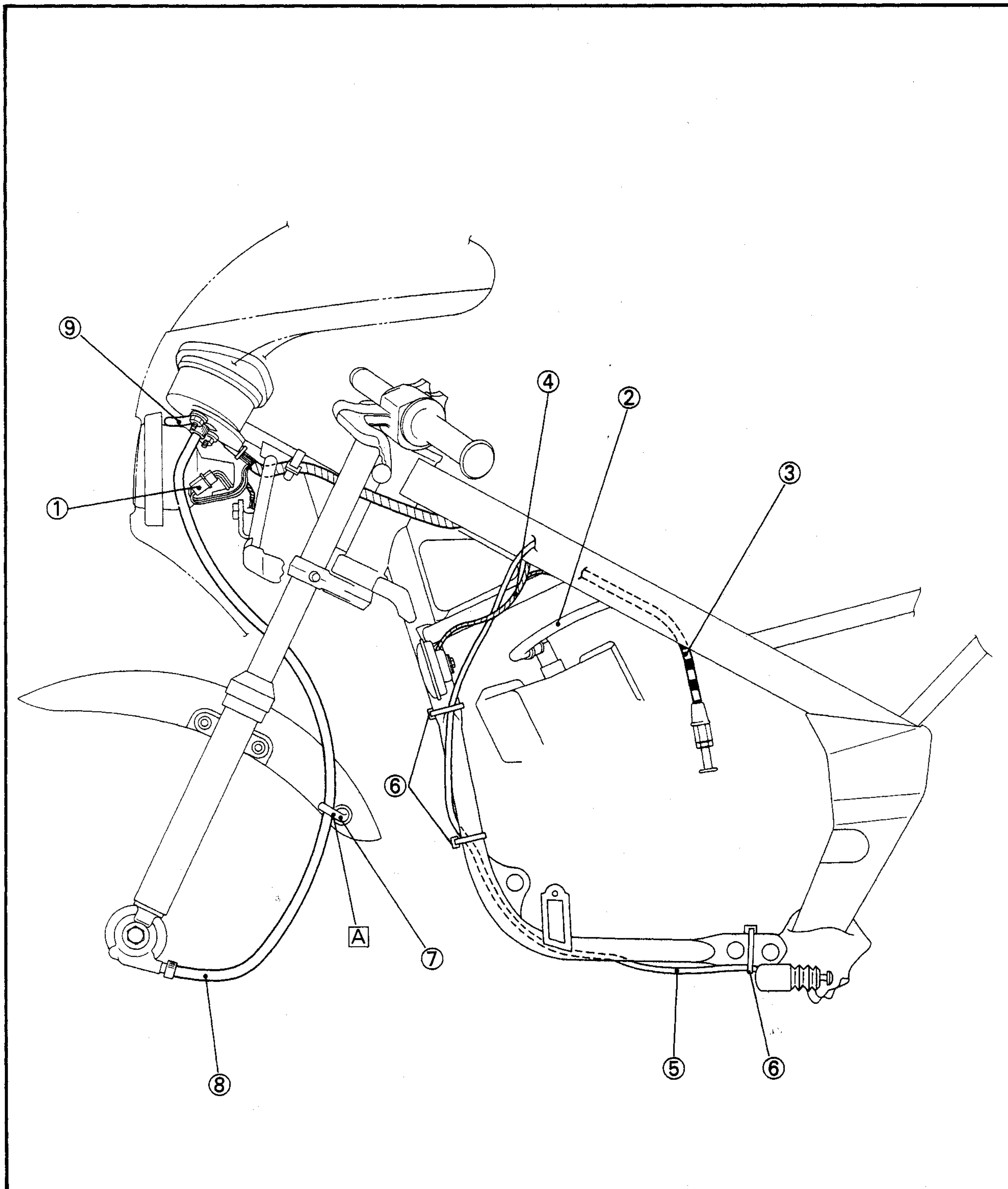
① Handlebar switch (Right) lead
② Main switch lead
③ Clutch cable
④ Handlebar switch (Left) lead
⑤ Clamp
⑥ Throttle cable
⑦ Front brake hose



CABLE ROUTING

① Headlight lead
② Spark plug lead
③ Clutch cable
④ Horn lead
⑤ Sidestand switch lead
⑥ Band
⑦ Cable holder
⑧ Speedometer cable
⑨ Meter light lead

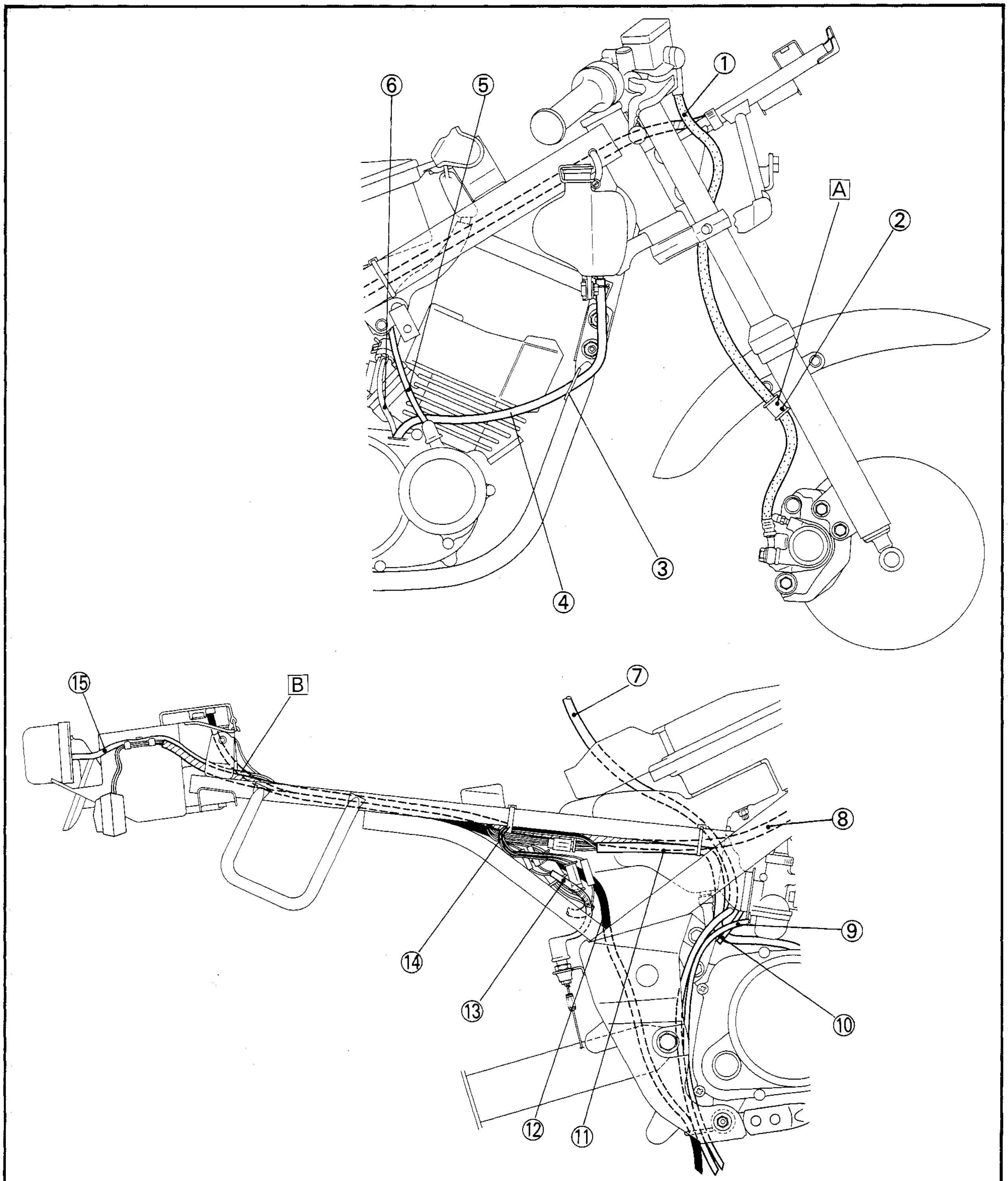
[A] Pass the speedometer cable through the cable holder.



CABLE ROUTING

① Front brake hose
② Clamp
③ Cable guide
④ Oil hose
⑤ Oil pump cable
⑥ Oil delivery hose
⑦ Fuel tank breather hose
⑧ Wireharness
⑨ Carburetor breather hose
⑩ Carburetor air vent hose
⑪ CDI magneto lead
⑫ Battery breather hose
⑬ Rear brake switch lead
⑭ Band
⑮ Tail/brake light lead

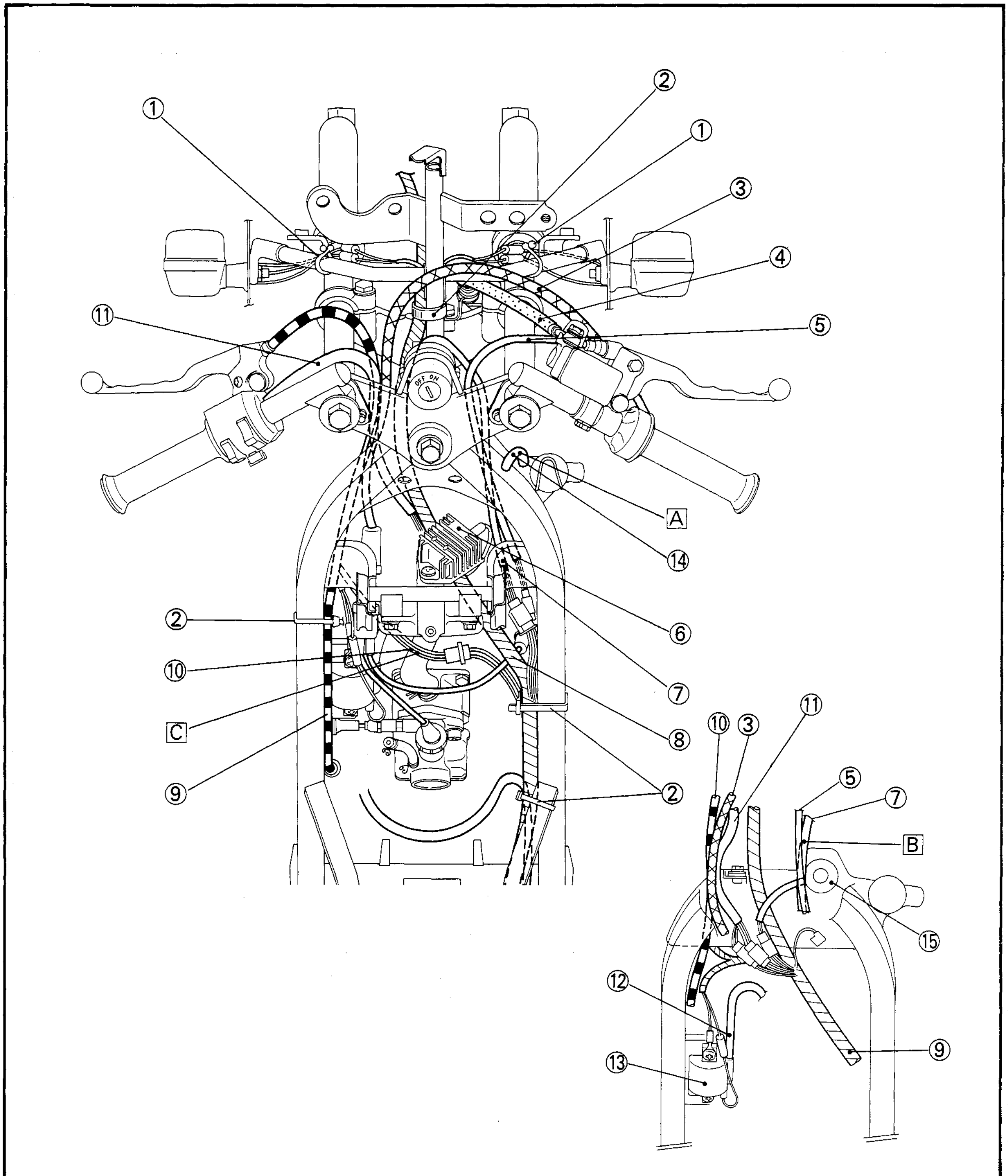
[A] Clamp the brake hose.
[B] Pass the battery breather hose through the hole on the rear fender.



CABLE ROUTING

① Clamp
② Band
③ Throttle cable
④ Front brake hose
⑤ Brake switch lead
⑥ Rectifier/Regulator
⑦ Main switch lead
⑧ Wireharness
⑨ Clutch cable
⑩ Sidestand switch lead
⑪ Handlebar switch (Left) lead
⑫ Spark plug lead
⑬ Ignition coil
⑭ Oil tank breather hose
⑮ Oil level switch

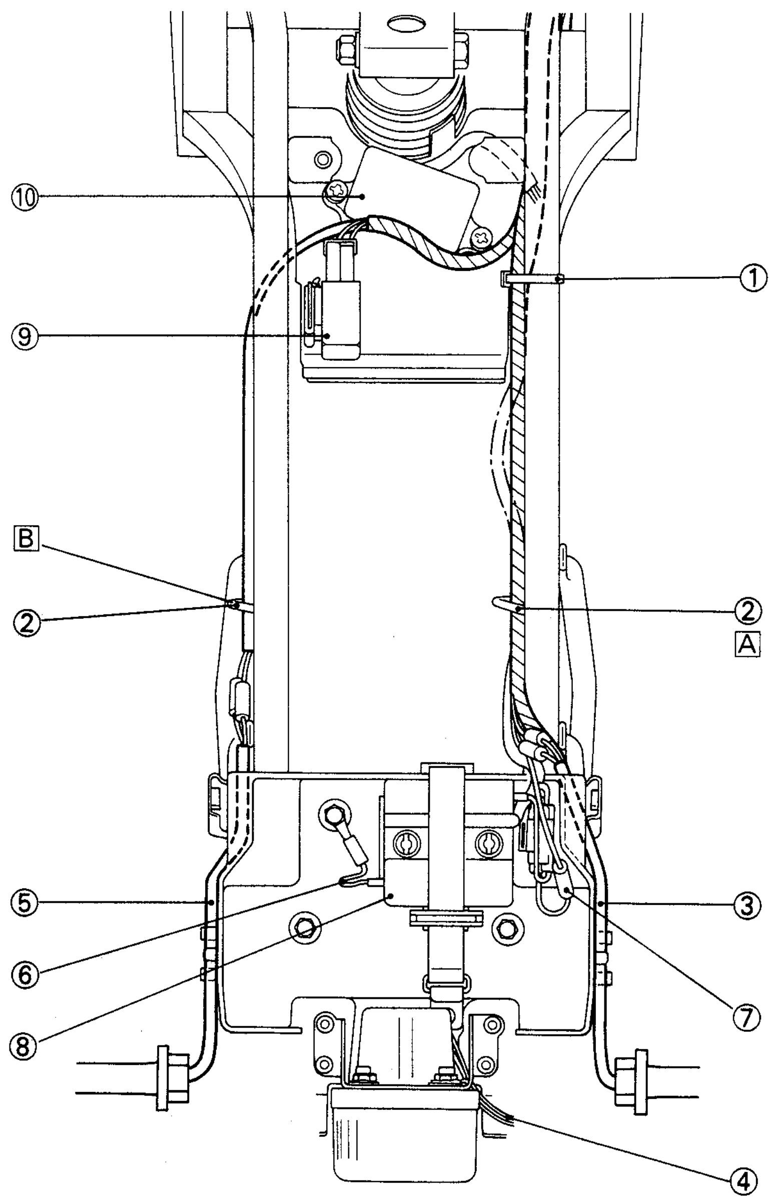
[A] Pass the oil tank breather hose through the hole on the frame.
[B] Pass the main switch and brake switch lead inside of the oil tank cap
[C] Pass the sidestand lead above the Y.E.I.S. hose.



CABLE ROUTING

① Band
② Cable guide
③ Rear flasher light (Right) lead
④ Taillight lead
⑤ Rear flasher light (Left) lead
⑥ Battery negative (−) lead
⑦ Battery positive (+) lead
⑧ Battery
⑨ Flasher relay
⑩ CDI unit

[A] Pass the wireharness, flasher light lead and battery breather hose through the guide.
[B] Pass the flasher light lead through the guide.



PERIODIC INSPECTION AND ADJUSTMENT

INTRODUCTION

This chapter includes all information necessary to perform recommended inspections and adjustments. These preventive maintenance procedures, if followed, will ensure more reliable vehicle operation and a longer service life. The need for costly overhaul work will be greatly reduced. This information applies to vehicles already in service as well as new vehicles that are being prepared for sale. All service technicians should be familiar with this entire chapter.

PERIODIC MAINTENANCE/LUBRICATION INTERVALS

Unit: km (mi)

ITEM	REMARKS	BREAK-IN 1,000 (600)	EVERY 3,000 (2,000) or 6 months	EVERY 6,000 (4,000) or 12 months
Spark plug(s)	Check condition. Clean or replace if necessary.	○	○	○
Air filter*	Clean. Replace if necessary.		○	○
Carburetor*	Check idle speed/starter operation. Adjust if necessary.	○		○
Fuel line*	Check fuel hose for cracks or damage. Replace if necessary.		○	○
Transmission oil*	Check oil level/oil leakage. Correct if necessary. Replace every 12,000 (8,000) or 24 months (Warm engine before draining.)	REPLACE	○	○
Autolube pump*	Check operation. Correct if necessary. Air bleeding.	○		○
Brake*	Check operation/fluid leakage/See NOTE. Correct if necessary (front). Check operation. Adjust if necessary (rear).		○	○
Clutch*	Check operation. Adjust if necessary.		○	○
Wheels*	Check balance/damage/runout. Repair if necessary.		○	○
Wheel bearings*	Check bearings assembly for looseness/damage. Replace if damaged.		○	○
Steering bearing*	Check bearings assembly for looseness. Correct if necessary. Moderately repack every 24,000 (16,000) or 24 months.**	○		○
Front forks*	Check operation/oil leakage. Repair if necessary.		○	○
Rear shock absorber*	Check operation/oil leakage. Repair if necessary.		○	○
Drive chain	Check chain slack/alignment. Adjust if necessary. Clean and lube.	EVERY 500 (300)		
Fittings/Fasteners*	Check all chassis fittings and fasteners. Correct if necessary.	○	○	○
Sidestand*	Check operation. Repair if necessary.	○	○	○
Sidestand switch*	Check operation. Clean or replace if necessary.	○	○	○
Battery*	Check specific gravity. Check breather pipe for proper operation. Correct if necessary.		○	○

*: It is recommended that these items be serviced by a Yamaha dealer or other qualified mechanic.
**: Medium weight wheel bearing grease. (bearing type)

3

NOTE:

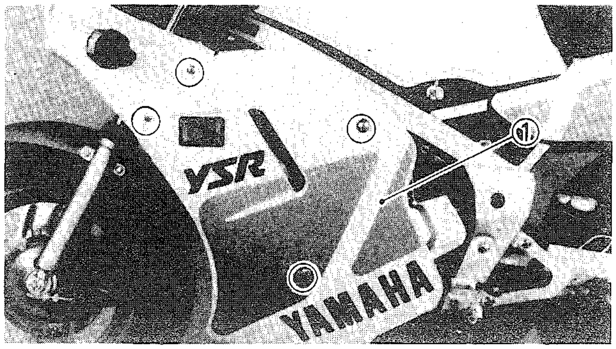
Brake system:

1. When disassembling the master cylinder or caliper cylinder, replace the brake fluid. Normally check the brake fluid level and add the fluid as required.
2. We recommend that, on the inner parts of the master cylinder and caliper cylinder, replace the oil seals every two years.
3. We recommend that, replace the brake hoses every four years, or if cracked or damaged.

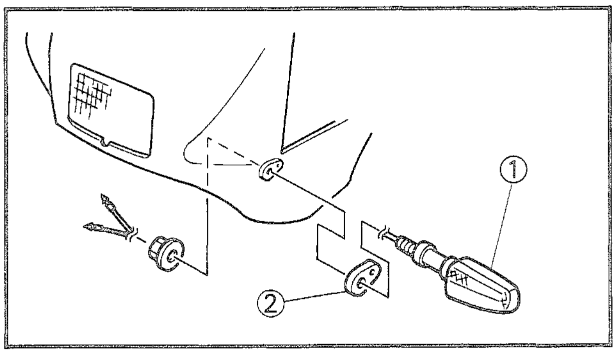
COWLINGS REMOVAL AND INSTALLATION

COWLINGS

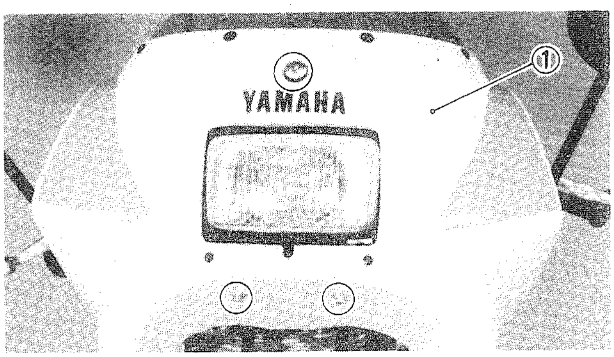
Removal



1. Remove:
   - Lower cowling ①



2. Remove:
   - Flasher lights (Left and right) ①
   - Flasher light stays ②



3. Remove:
   - Upper cowling ①

Installation

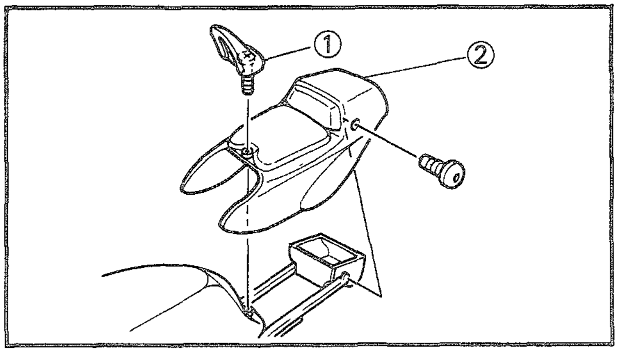
Reverse the removal steps.
Note the following points.

1. Install:
   - Flasher light (Right)
   - Flasher light (Left)

NOTE:

- On the left side, install the flasher light having a chocolate color lead. Next, install the other flasher light with a dark green color lead on the right side.
- Install the flasher light with the notch in its end fitting the convex part of the flasher light stay.
- Connect the flasher light lead and the negative lead to the wire harness. The leads of identical colors should be connected.

Nut (Flasher Light):
10 Nm (1.0 m·kg, 7.2 ft·lb)



SIDE COVER

Removal

1. Remove:
   - Front seat ①
   - Side cover ②

Installation

Reverse removal step.

ENGINE

IDLE SPEED ADJUSTMENT

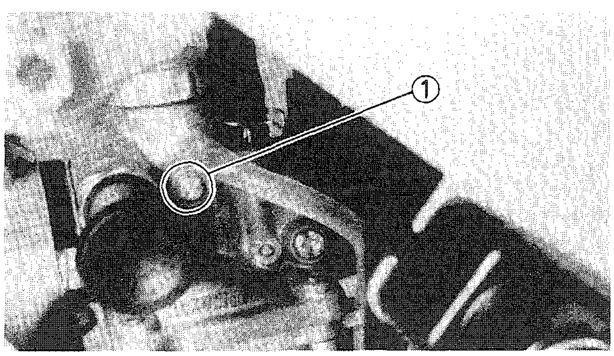
1. Remove:
   - Lower cowling
     Refer to "COWLINGS" section.
2. Start the engine and warm it up.
3. Attach:
   - Inductive Tachometer
     To the spark plug lead.

	Inductive Tachometer: YU-08036

4. Check:
   - Engine idle speed
     Out of specification→Adjust.

	Engine Idle Speed: 1,300 ~ 1,400 r/min

5. Adjust:
   - Engine idle speed



Adjustment steps:
- Turn the throttle stop screw ① in or out until specified idle speed is obtained.

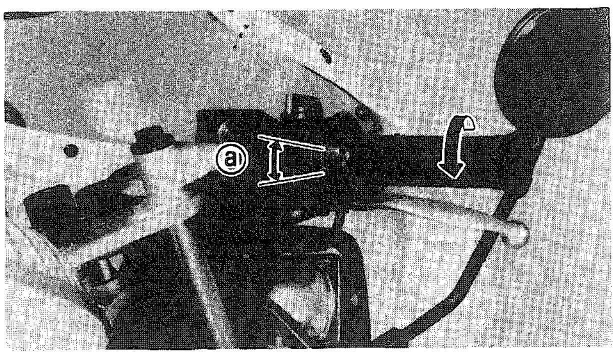
Turn in	Idle speed becomes higher.
Turn out	Idle speed becomes lower.

6. Install:
   - Lower cowling
     Refer to "COWLINGS" section.

THROTTLE CABLE FREE PLAY ADJUSTMENT

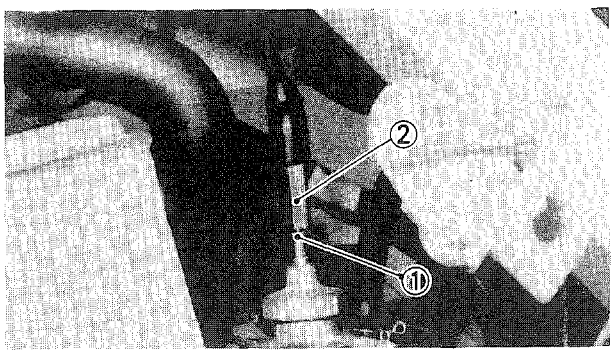
NOTE:

Before adjusting throttle cable free play, engine idle speed should be adjusted.



1. Check:
   - Throttle cable free play ⓐ
     Out of specification→Adjust.

Throttle Cable Free Play:
3~7 mm (0.12~0.28 in)



2. Adjust:
   - Throttle cable free play

Adjustment steps:
- Loosen the locknut ①.
- Turn the adjuster ② in or out until the correct free play is obtained.

Turn in	Free play is increased.
Turn out	Free play is decreased.

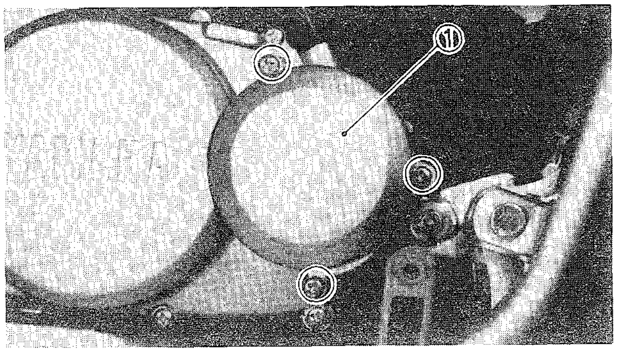
- Tighten the locknut.

AUTOLUBE PUMP CABLE ADJUSTMENT

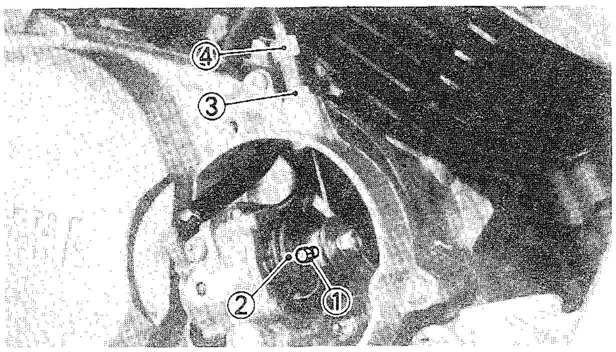
NOTE:

Before adjusting Autolube pump cable, the throttle cable free play should be adjusted.

1. Remove:
   - Lower cowling
     Refer to "COWLINGS" section.



2. Remove:
   - Autolube pump cover ①



3. Check:
   - Alignment mark

Checking steps:
- Start the engine.
- Rotate the throttle grip slightly until the slack is removed from all cables (Until the engine speed just begins to rise).
- Check to see that Autolube pump plunger pin ① is aligned with the match mark ②.
  Incorrect→Adjust Autolube pump cable.

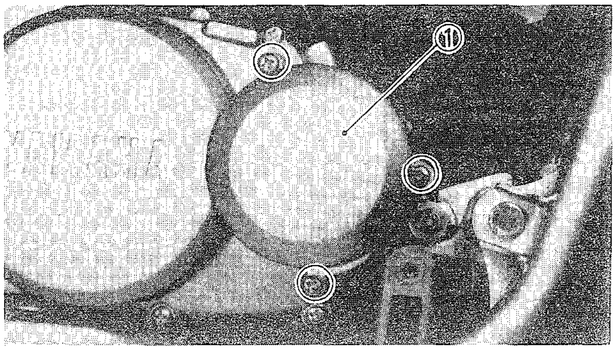
4. Adjust:
   - Autolube pump cable

Adjustment steps:
- Loosen the locknut ③.
- Turn the adjuster ④ in or out until the alignment mark is aligned with the pin.
- Tighten the locknut.

5. Install:
   - Autolube pump cover
   - Lower cowling

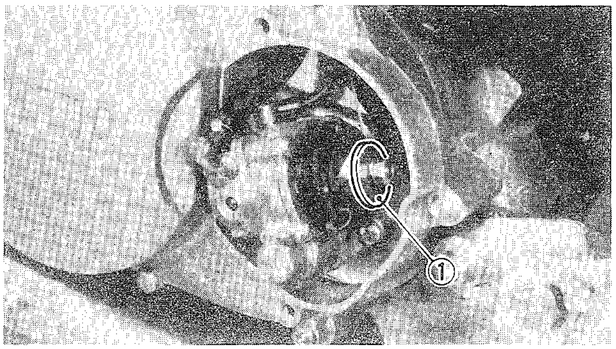
AUTOLUBE PUMP STROKE ADJUSTMENT

1. Remove:
   - Lower cowling
     Refer to the "COWLINGS" section.

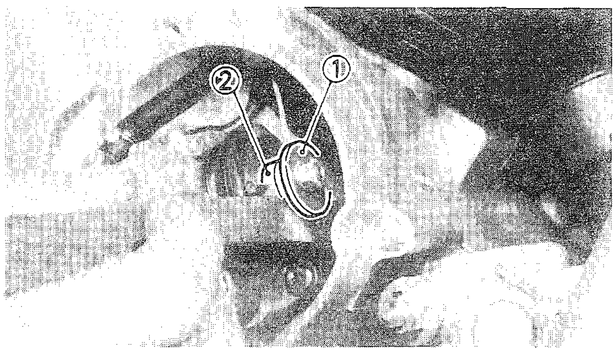


2. Remove:
   - Autolube pump cover ①

3. Start the engine and warm it up.



4. While running the engine at idle, observe the pump adjusting plate carefully. Stop the engine the moment that the adjusting plate ① moves out to its limit.

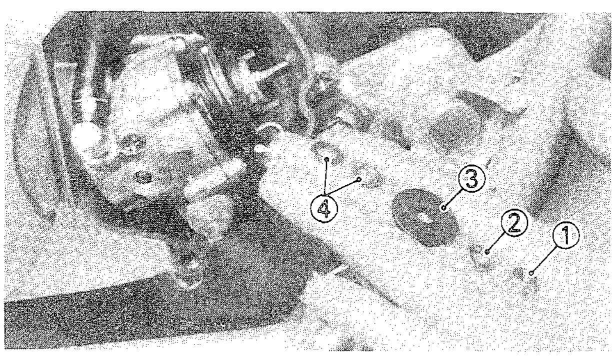


5. Measure:
   - Gap
     Out of specification→Adjust.
     Measure the gap with the thickness gauge between the raised boss ② on the pump adjusting pulley and the adjusting plate ①.

Minimum Pump Stroke:
0.20 ~ 0.25 mm (0.008 ~ 0.010 in)

NOTE:
When inserting the thickness gauge between the adjusting plate and the adjusting pulley, be careful so that neither the plate nor the pulley is moved. In other words, do not force the thickness gauge into the gap.

6. Adjust:
   - Autolube pump minimum stroke



Adjustment steps:
- Remove the locknut ①, spring washer ② and adjusting plate ③.
- Adjust the pump stroke by adding or removing a shim(s) ④.

Add shim	**Pump stroke is increased.**
Remove shim	**Pump stroke is decreased.**

- Install the adjusting plate, spring washer and locknut.

Locknut:
7 Nm (0.7 m•kg, 5.1 ft•lb)

- Recheck the minimum pump stroke. If out of specification, perform the above steps again.

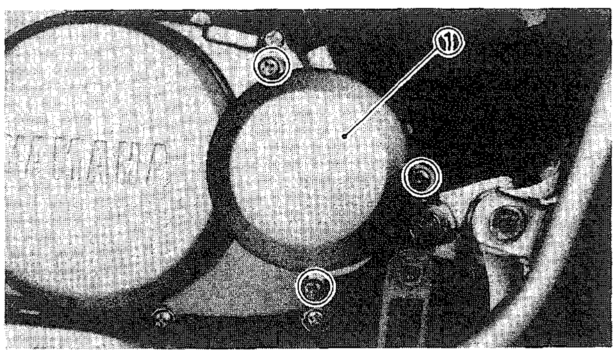
7. Install:
   - Autolube pump cover
   - Lower cowling

AUTOLUBE PUMP AIR BLEEDING

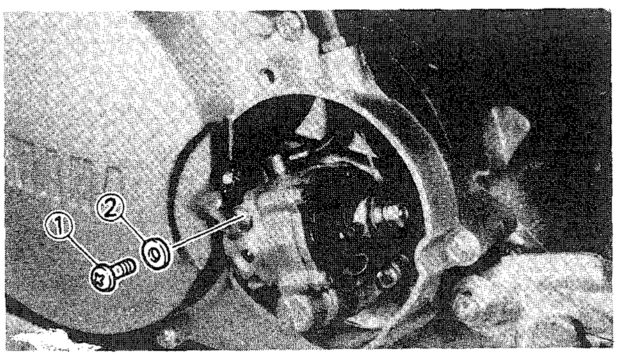
NOTE:

The Autolube pump and delivery lines must be bled on the following occasions:

- Setting up a new motorcycle out of the crate.
- Whenever the oil tank has run dry.
- Whenever any portion of the engine oil system is disconnected.



1. Remove:
   - Lower cowling
     Refer to "COWLINGS" section.
2. Remove:
   - Autolube pump cover ①



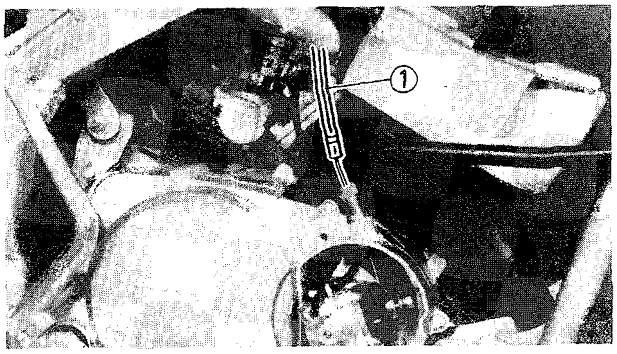
3. Air bleed:
   - Pump case and/or oil pipe

Air bleeding steps:

- Remove the bleed screw ①.
- Keep the oil running out until air bubbles disappear.
- When air bubbles are expelled completely, tighten the bleed screw.

NOTE:

Check the bleed screw gasket ②, and if damaged, replace with a new one.



4. Air bleed:
   - Pump distributor and/or delivery hose

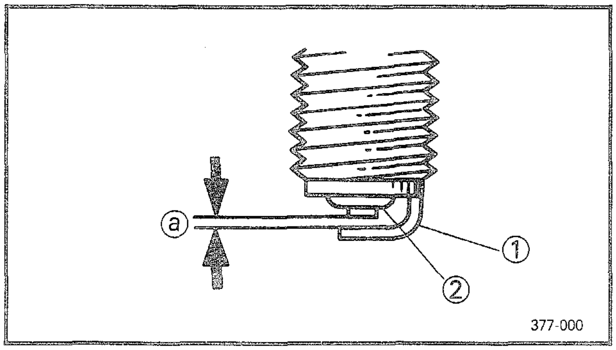
> **Air bleeding steps:**
> - Start the engine.
> - Pull the pump cable ① all the way out to set the pump stroke to a maximum.
>
> NOTE:
>
> It is difficult to bleed the distributor completely with the pump stroke at a minimum, and therefore the pump stroke should be set to a maximum.
>
> - Keep the engine running at about 2,000 r/min for two minutes or so, and both distributor and delivery pipe can be completely bled.

5. Install:
   - Autolube pump cover
   - Lower cowling

SPARK PLUG INSPECTION

1. Remove:
   - Lower cowling
     Refer to the "COWLINGS" section.
2. Remove:
   - Spark plug
3. Inspect:
   - Spark plug type
     Incorrect→Replace.

> **Standard Spark Plug:**
> **B7HS *or* B8HS/N.G.K.**



4. Inspect:
   - Electrode ①
     Wear/Damage→Replace.
   - Insulator ②
     Abnormal color→Replace
     Normal color is a medium-to-light tan color.
5. Clean the spark plug with a spark plug cleaner or wire brush.
6. Measure:
   - Plug gap ⓐ
     Use a Wire Gauge or Feeler Gauge.
     Out of specification→Regap.

Spark Plug Gap:
0.5 ~ 0.6 mm (0.020 ~ 0.024 in)

7. Tighten:
   - Spark plug(s)
     Before installing a spark plug, clean the gasket and plug surfaces.

NOTE:
Finger-tighten the spark plug(s) before torquing to specification.

Spark Plug:
25 Nm (2.5 m•kg, 18 ft•lb)

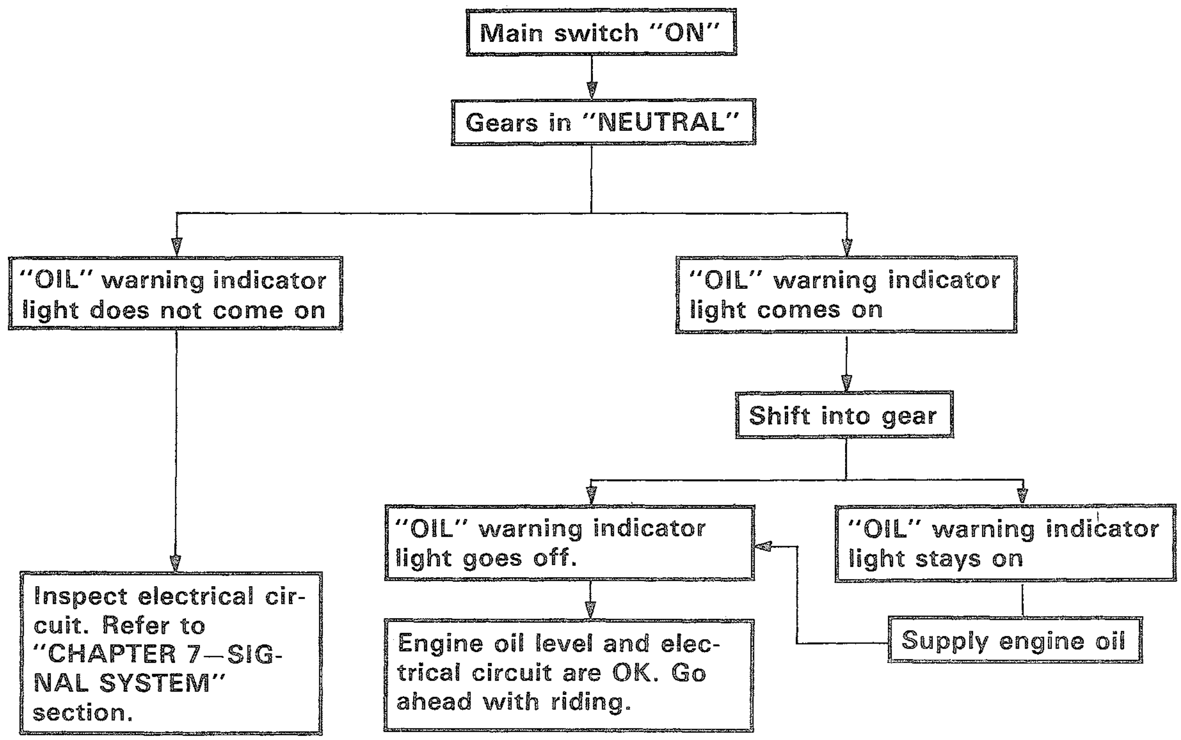
8. Install:
   - Lower cowling

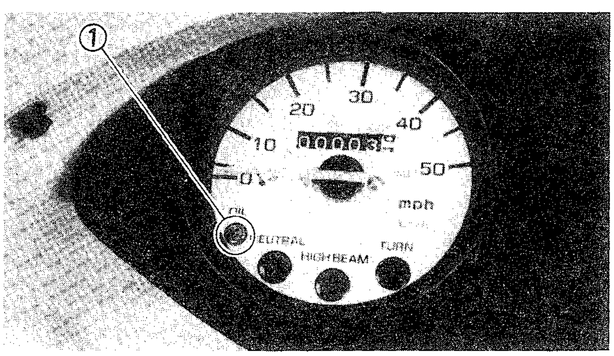
IGNITION TIMING CHECK
Adjustment free.

ENGINE OIL LEVEL CHECK
1. Check:
   - Oil level
     Oil level low→Add sufficient oil.

Recommended Oil:
Yamalube "2" or Air Cooled 2 Stroke Engine Oil with "BIA Certified for Service TC-W"
Oil Tank Capacity:
0.73 L (0.64 Imp qt, 0.77 US qt)

OIL LEVEL AND "OIL" WARNING INDICATOR LIGHT CHECKING METHOD





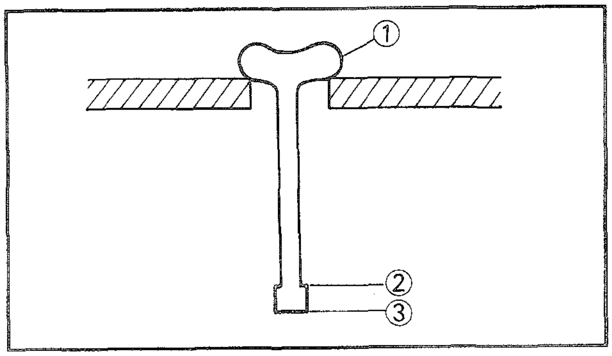
① "OIL" warning indicator light

CAUTION:

Always use the same type of engine oil; mixing oils may result in a harmful chemical reaction and lead to poor performance.

TRANSMISSION OIL LEVEL INSPECTION

1. Place the motorcycle on a level surface and warm up the engine for several minutes.
2. Stop the engine and remove the oil filler cap.



3. Rest the oil dip stick ① on the threads of the hole.

NOTE:

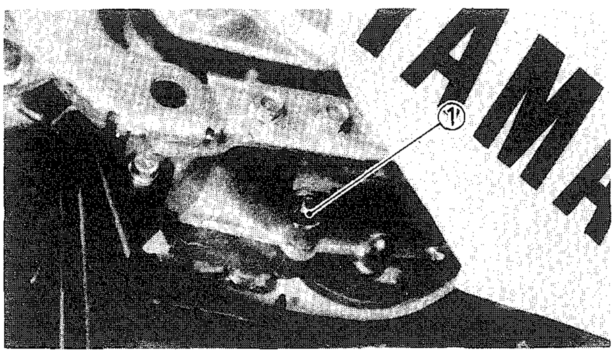
- Wait a few minutes until level settles before inspecting.
- Oil dip stick is included in owner's tool kit.
- Position motorcycle straight up when inspecting oil level, a slight tilt to the side can produce false readings.

4. Inspect:
   - Oil level
     Oil level should be between maximum ② and minimum ③ marks.
     Oil level low→Add oil to proper level.

Recommended Oil:
Yamalube "4", SAE 10W30 Type SE Motor Oil or "GL" Gear Oil

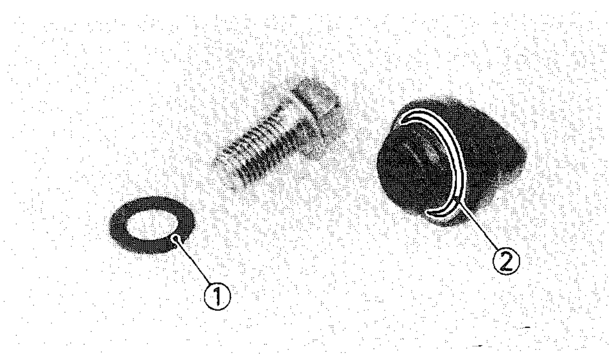
NOTE:

Recommended engine oil classification; API Service "SE", "SF" type or equivalent (e.g. "SF-SE", "SF-SE-CC", "SF-SE-SD" etc.).



TRANSMISSION OIL REPLACEMENT

1. Warm up the engine for several minutes and stop the engine.
2. Place an oil pan under the engine.
3. Remove:
   - Oil filler cap
   - Drain plug ①
     Drain the engine oil.



4. Inspect:
   - Gasket ① (Drain plug)
   - O-ring ② (Oil filler cap)
     Damage→Replace.

5. Install:
   - Drain plug

Drain Plug:
20 Nm (2.0 m•kg, 14 ft•lb)

6. Fill:
   - Crankcase

Recommended Oil:
Yamalube "4", SAE 10W30 Type SE Motor Oil or "GL" Gear Oil.
Oil Capacity (Periodic Oil Change):
0.60 L (0.53 Imp qt, 0.63 US qt)

NOTE:
Recommended engine oil classification; API Service "SE", "SF" type or equivalent (e.g. "SF-SE", "SF-SE-CC", "SF-SE-SD" etc.).

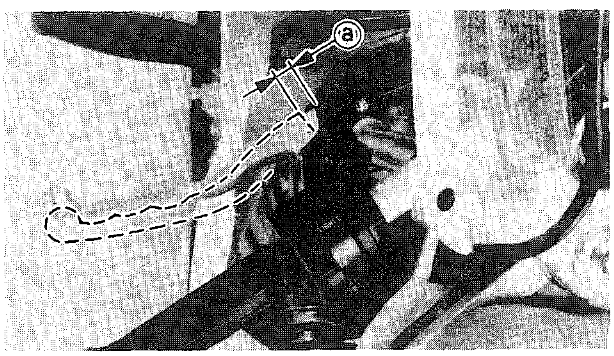
CAUTION:

- **Do not allow foreign material to enter the crankcase.**
- **Do not add any chemical additives. Transmission oil also lubricates the clutch and additives could cause clutch slippage.**

7. Install:
   - Oil filler cap
8. Inspect:
   - Oil leaks
   - Oil level

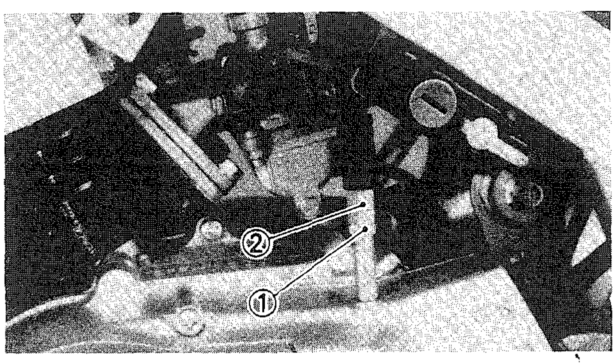
CLUTCH ADJUSTMENT

Free Play Adjustment



1. Check:
   - Clutch cable free play ⓐ
     Out of specification→Adjust.

Free Play:
2~3 mm (0.08~0.12 in)



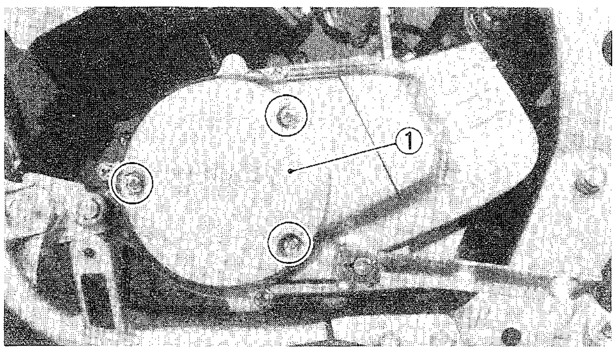
2. Adjust:
   - Clutch cable free play

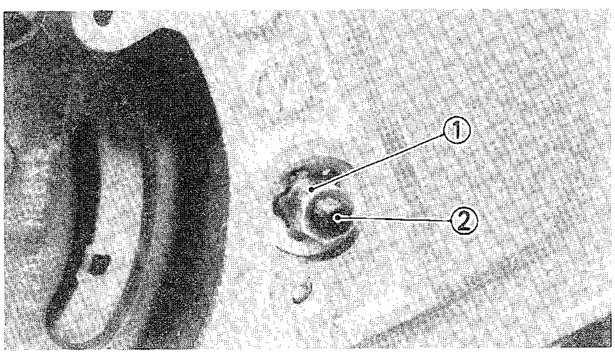
Adjustment steps:
- Loosen the locknuts ①.
- Turn the adjusters ② in or out until the specified free play is obtained.

Turn in	**Free play is increased.**
Turn out	**Free play is decreased.**

- Tighten the locknuts.

NOTE:
The above procedure provides for maximum cable free play to allow for proper clutch actuating mechanism adjustment.





Mechanism Adjustment

1. Loosen:
   - Cable length adjuster locknut
2. Tighten:
   - Cable length adjuster (Until tight)
3. Remove:
   - Lower cowling
     Refer to "COWLINGS" section.
   - Flywheel magneto cover ①
4. Adjust:
   - Clutch push lever free play

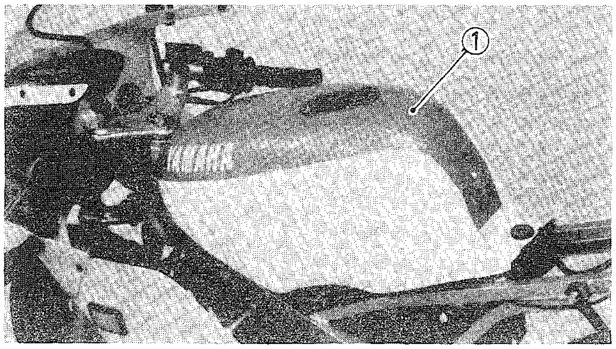
Adjustment steps:
- Loosen the locknut ①.
- Turn the adjuster ② until it is lightly seated.
- Turn out the adjuster 1/4 turn.
- Tighten the locknut while holding the adjuster.

5. Install:
   - Flywheel magneto cover
   - Lower cowling
6. Adjust:
   - Clutch cable free play
     Refer to "Free play adjustment" section.

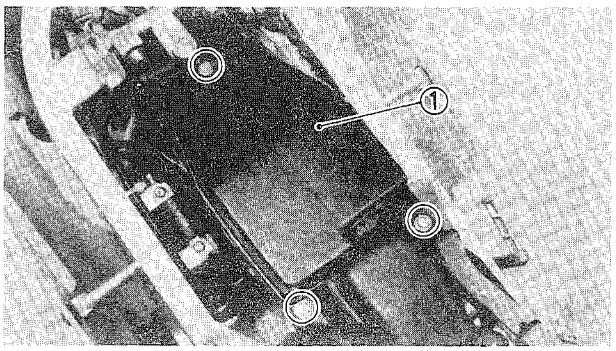
AIR FILTER CLEANING

1. Remove:
   - Front seat
   - Side cover

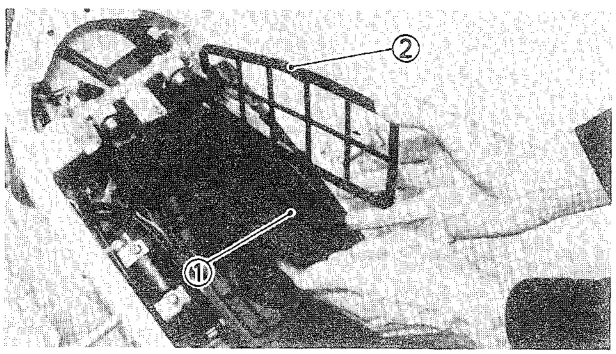
Refer to "SIDE COVER" section.



2. Turn the fuel cock to "OFF" and disconnect the fuel hose.
3. Remove:
   - Fuel tank ①



4. Remove:
   - Air filter cover ①



5. Remove:
   - Air filter element ①
   - Element guide ②

CAUTION:

Never operate the engine with the air filter element removed. This will allow unfiltered air to enter, causing rapid wear and possible engine damage. Additionally, operation without the filter element will affect carburetor tuning with subsequent poor performance and possible engine overheating.

6. Clean:
   - Air filter element

Cleaning steps:
- Wash the element gently, but thoroughly in solvent.

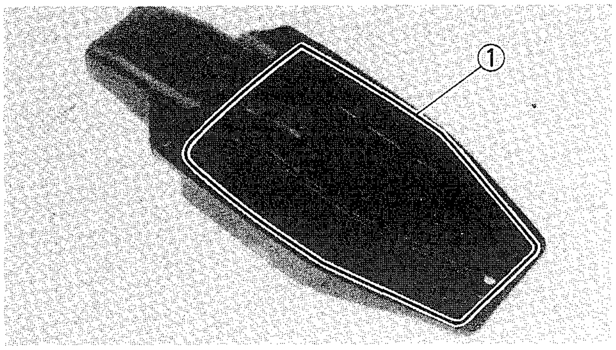
WARNING:

Never use low flash point solvents such as gasoline to clean the element. Such solvent may lead to a fire or explosion.

- Squeeze the excess solvent out of the element and let dry.

CAUTION:

Do not twist the element when equeezing the element.



7. Inspect:
   - Air filter element
   - Seal ①
   Damage→Replace.
8. Apply:
   - Foam-air-filter oil or Yamalube 2-cycle oil
   Onto the element.
9. Squeeze out the excess oil.

NOTE:

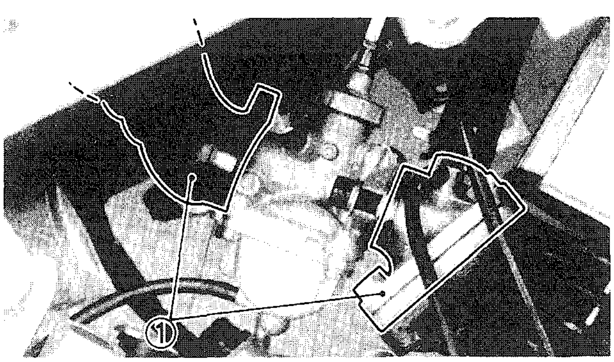
The element should be wet but not dripping.

10. Install:
    - Air filter element
    - Element guide
    - Air filter case cover

CAUTION:

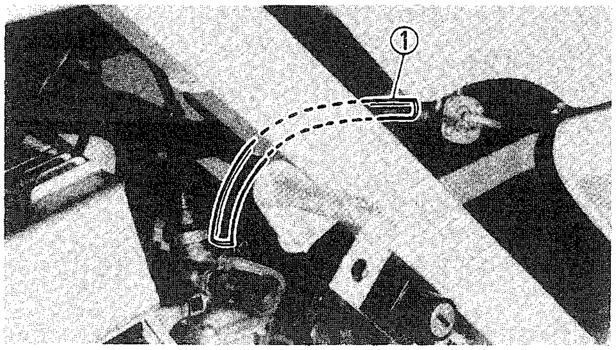
When installing the air filter element in its case, be sure its sealing surface matches the sealing surface of the case so there is no air leak.

11. Install:
    - Fuel tank
    - Front seat
    - Side cover



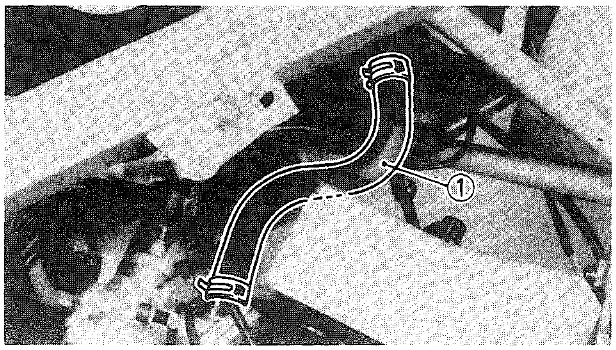
CARBURETOR JOINT INSPECTION

1. Remove:
   - Lower cowling
   Refer to "COWLINGS" section.
2. Inspect:
   - Carburetor joint ①
   Cracks/Damage→Replace.
3. Install:
   - Lower cowl



FUEL LINE INSPECTION

1. Remove:
   - Lower cowling
     Refer to "COWLINGS" section
2. Inspect:
   - Fuel hose ①
     Cracks/Damage→Replace.
3. Install:
   - Lower cowl

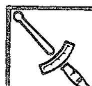


Y.E.I.S. HOSE INSPECTION

1. Remove:
   - Lower cowling
     Refer to "COWLINGS" section.
2. Inspect:
   - Y.E.I.S. hose ①
     Cracks/Damage→Replace.
3. Install:
   - Lower cowling

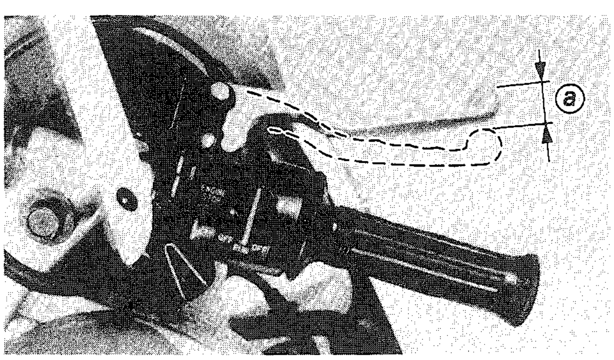
EXHAUST SYSTEM INSPECTION

1. Remove:
   - Lower cowling
     Refer to "COWLINGS" section.
2. Inspect:
   - Exhaust pipe
     Cracks/Damage→Replace.
   - Gaskets
     Exhaust gas leakage→Replace or tighten the ring nut (Exhaust pipe).



Ring Nut (Exhaust Pipe):
6 Nm (0.6 m•kg, 4.2 ft•lb)
Bolt (Exhaust Pipe):
18 Nm (1.8 m•kg, 13 ft•lb)

3. Install:
   - Lower cowling



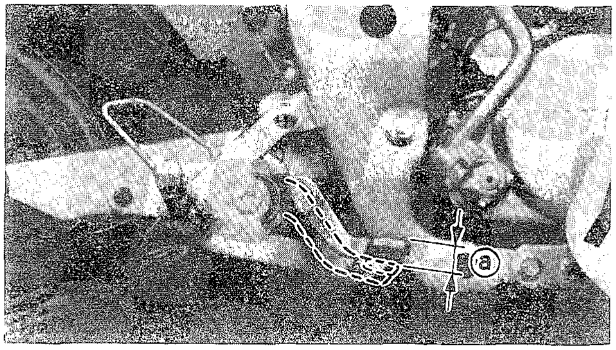
CHASSIS

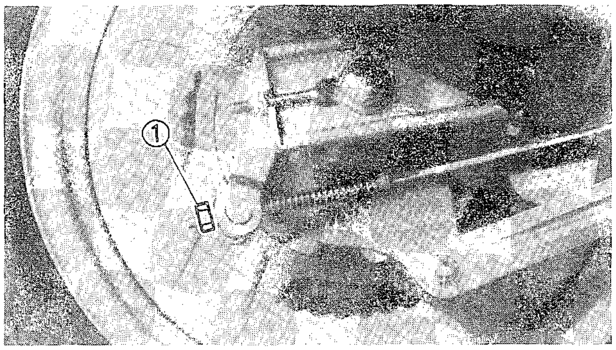
FRONT BRAKE ADJUSTMENT

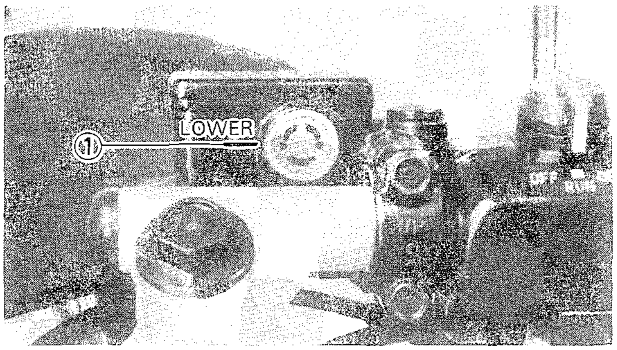
1. Check:
   - Brake lever free play ⓐ
     Out of specification→Inspect the brake system.
     Refer to "CHAPTER 7—FRONT BRAKE" section.



Free Play:
2~5 mm (0.08~0.20 in)







REAR BRAKE ADJUSTMENT

1. Check:
   - Brake pedal free play ⓐ
   Out of specification→Adjust.

Brake Pedal Free Play: 20 ~ 30 mm (0.8 ~ 1.2 in)

Adjustment steps:
- Turn the adjuster ① in or out until the specified free play is obtained.

Turn in	Free play is decreased.
Turn out	Free play is increased.

BRAKE FLUID INSPECTION

1. Make sure the master cylinder top is horizontal by turning the handlebars.
2. Inspect:
   - Brake fluid level
   Fluid level is under "LOWER" level line ①→Replenish.

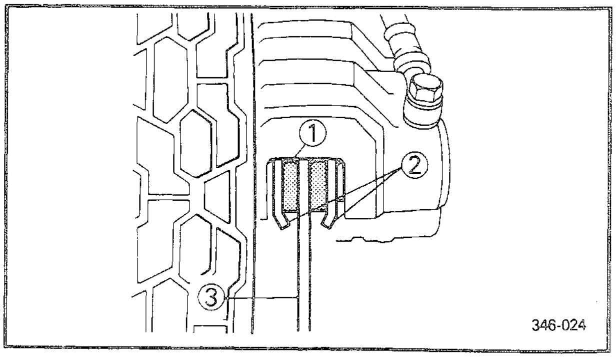
Recommended Brake Fluid: DOT #3

CAUTION:

Brake fluid may erode painted surfaces or plastic parts. Always clean up spilled fluid immediately.

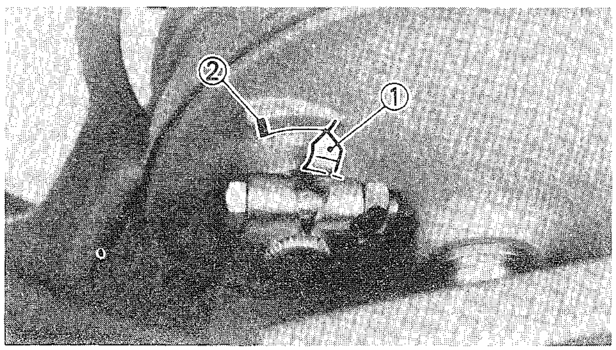
WARNING:

- **Use only the designated quality brake fluid: otherwise, the rubber seals may deteriorate, causing leakage and poor brake performance.**
- **Refill with the same type of brake fluid; mixing fluids may result in a harmful chemical reaction and lead to poor performance.**
- **Be careful that water does not enter the master cylinder when refilling. Water will significantly lower the boiling point of the fluid and may result in vapor lock.**



BRAKE PAD INSPECTION

1. Activate the brake lever.
2. Inspect:
   - Brake pad ①
     Wear indicator ② almost contacts brake disc ③→Replace brake pad as a set.
     Refer to "BRAKE PAD REPLACEMENT" section in the CHAPTER 6 for replacement.



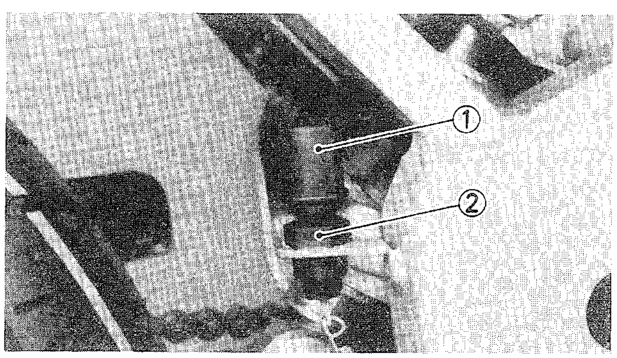
BRAKE SHOE INSPECTION

1. Activate the brake pedal.
2. Inspect:
   - Wear indicator ①
     Indicator at wear limit line ②→Replace brake shoes.

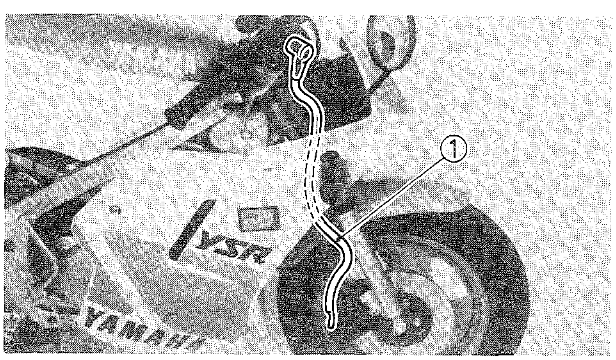
BRAKE LIGHT SWITCH ADJUSTMENT

NOTE:

The brake light switch is operated by movement of the brake pedal.
Proper adjustment is achieved when the brake light comes on just before the brake begins to take effect.



1. Hold the switch body ① with your hand so that it does not rotate and turn the adjusting nut ②.



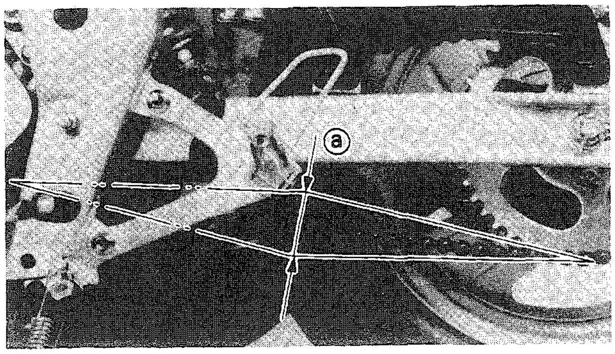
BRAKE HOSE INSPECTION

1. Inspect:
   - Brake hose ①
     Crack/Damage/Fluid leakage→Replace.

DRIVE CHAIN SLACK ADJUSTMENT

NOTE:

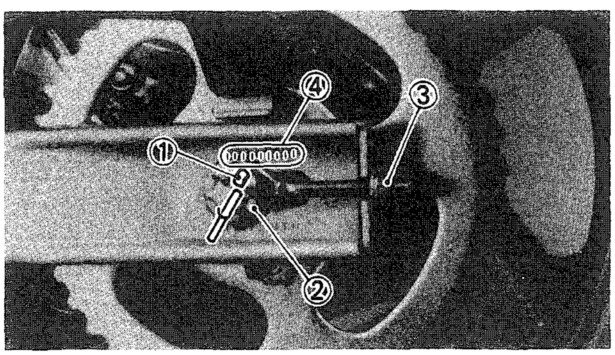
Before checking and/or adjusting, rotate the rear wheel through several revolutions and check slack at several points to find the tightest point. Check and/or adjust the chain slack with the rear wheel in this "tightest" position.



1. Check:
   - Drive chain slack ⓐ
     Out of specification→Adjust.

Drive Chain Slack:	25～30 mm (1.0～1.2 in)

2. Adjust:
   - Drive chain slack



Adjustment steps:

CAUTION:

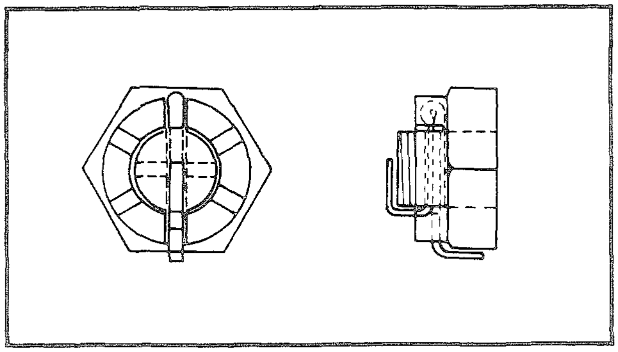
Too small chain slack will overload the engine and other vital parts; keep the slack within the specified limits.

- Remove the cotter pin ①.
- Loosen the nut (Rear wheel axle) ②.
- Turn the adjusters ③ in or out until specific slack is obtained

Increase slack	**Turn out the adjusters and push the rear wheel forward.**
Decrease slack	**Turn in the adjusters.**

NOTE:

Turn each adjuster exactly the same amount to maintain correct axle alignment. (There are marks ④ on each side of swingarm and on each chain puller; use them to check for proper alignment.)



- Tighten the nut (Rear wheel axle)

Nut (Rear Wheel Axle):
60 Nm (6.0 m•kg, 44 ft•lb)

- Insert a new cotter pin.

WARNING:

Always use a new cotter pin.

- Bend the end of cotter pin as shown.
- Adjust the free play in the brake pedal.

DRIVE CHAIN LUBRICATION

The chain consists of many parts which work against each other. If the chain is not maintained properly, it will wear out rapidly, therefore, form the habit of periodically servicing the chain. This service is especially necessary when riding in dusty conditions.

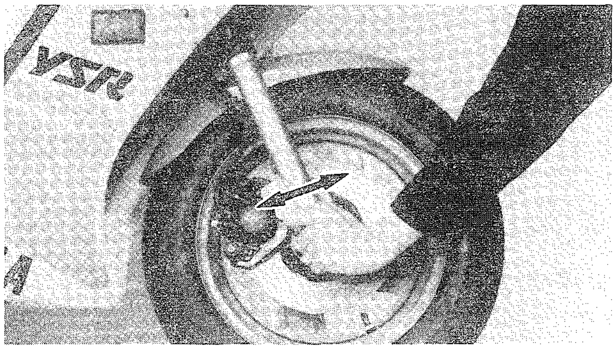
1. Use any brand of spray type chain lubricant. First, remove all dirt and mud from the chain with a brush or cloth, then spray a lubricant between both rows of side plates and on all center rollers.
2. To clean the chain, remove the chain from the machine, dip it in solvent, and clean out as much dirt as possible. Take the chain out of the solvent and dry it. Immediately lubricate the chain to prevent rust.

STEERING HEAD ADJUSTMENT

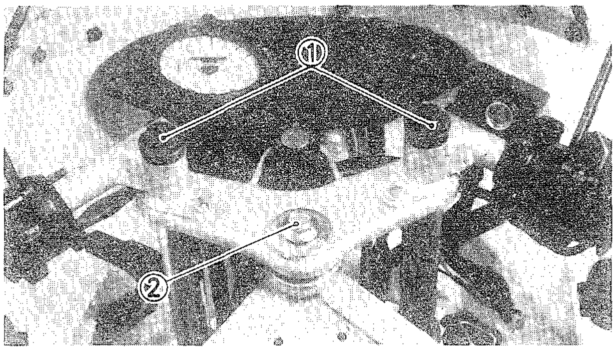
WARNING:

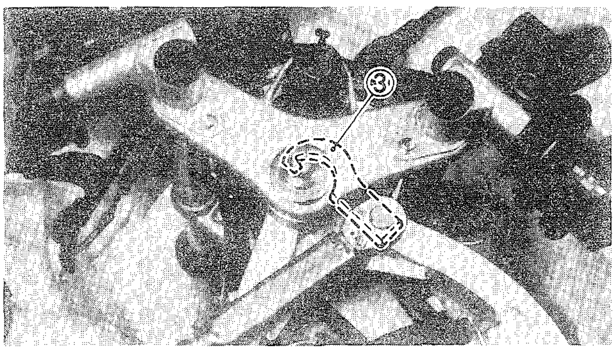
Securely support the motorcycle so there is no danger of it falling over.

1. Remove:
   - Lower cowling
     Refer to "COWLINGS" section.
2. Elevate the front wheel by placing a suitable stand under the engine.



3. Check:
   - Steering assembly bearings
     Grasp the bottom of the forks and gently rock the fork assembly back and forth.
     Looseness→Adjust steering head.





4. Adjust:
   - Steering head

Adjustment steps:
- Loosen the cap bolts ①.
- Loosen the steering stem bolt ②.
- Tighten the ring nut using the Ring Nut Wrench ③.

Ring Nut Wrench:
YU-33975

NOTE:
Set the torque wrench to the ring nut wrench so that they form a right angle.

Ring Nut (Initial Tightening):
30 Nm (3.0 m•kg, 22 ft•lb)

- Loosen the ring nut one turn.
- Retighten the ring nut using the Ring Nut Wrench.

WARNING:
Avoid over-tightening.

Ring Nut (Final Tightening):
6 Nm (0.6 m•kg, 4.3 ft•lb)

- Tighten the steering stem bolt and cap bolt.

Steering Stem Bolt:
40 Nm (4.0 m•kg, 28 ft•lb)
Cap Bolt:
30 Nm (3.0 m•kg, 22 ft•lb)

5. Install:
   - Lower cowling

TIRE INSPECTION

WARNING:

Do not attempt to use tubeless tires on a wheel designed for tube type tires only. Tire failure and personal injury may result from sudden deflation.

Wheel	Tire
Tube type	Tube type only
Tubeless	Tube type or tubeless

Be sure to install the correct tube when using tube type tires.

1. Measure:
   - Tire pressure
     Out of specification→Adjust.

WARNING:

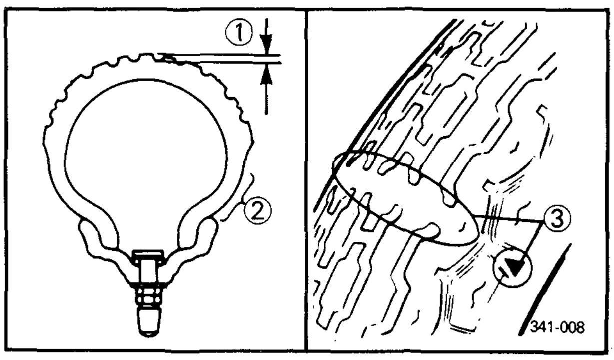
Tire inflation pressure should be checked and adjusted when the temperature of the tire equals the ambient air temperature. Tire inflation pressure must be adjusted according to total weight of cargo, rider, passenger, and accessories (fairing, saddlebags, etc. if approved for this model), and vehicle speed.

Basic weight: With oil and full fuel tank	91 kg (201 lb)	
Maximum load*	68 kg (150 lb)	
Cold tire pressure	Front	Rear
Zero ~ Maximum load*	130 kPa (1.3 kg/cm², 18 psi)	150 kPa (1.5 kg/cm², 21 psi)

*Load is the total weight of cargo, rider, and accessories.

2. Inspect:
   - Tire surfaces
     Wear/Damage→Replace.

Minimum Tire Tread Depth: (Front and Rear)
1.0 mm (0.04 in)



① Tread depth
② Side wall
③ Wear indicator

WHEEL INSPECTION

1. Inspect:
   - Wheels
     Damage/Bends→Replace.

NOTE:
Always balance the wheel when a tire or wheel has been changed or replaced.

WARNING:

Never attempt even small repairs to the wheel.

2. Tighten:
   - Valve stem locknut

	1.5 Nm (0.15 m•kg, 1.1 ft•lb)

WARNING:

Ride conservatively after installing a tire to allow it to seat itself properly on the rim.

CABLE INSPECTION AND LUBRICATION

WARNING:

Damaged cable sheath may cause corrosion and interfere with the cable movement. An unsafe condition may result so replace such cable as soon as possible.

1. Inspect:
   - Cable sheath
     Damage→Replace.

2. Check:
   - Cable operation
     Unsmooth operation→Lubricate.

Recommended Lubricant:
Yamaha Chain and Cable Lube
or SAE 10W30 Motor Oil

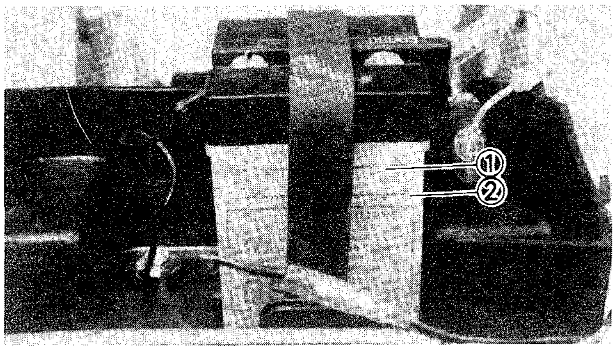
NOTE:
Hold cable end high and apply several drops of lubricant to cable.

LEVER AND PEDAL LUBRICATION
Lubricate pivoting parts of each lever and pedal.

Recommended Lubricant:
Yamaha Chain and Cable Lube
or SAE 10W30 Motor Oil

SIDESTAND LUBRICATION
Lubricate the sidestand at pivot points.

Recommended Lubricant:
Yamaha Chain and Cable Lube
or SAE 10W30 Motor Oil



ELECTRICAL

BATTERY INSPECTION

1. Remove:
   - Front seat
   - Side cover

   Refer to "SIDE COVER" section
2. Inspect:

   Fluid level should be between upper ① and lower ② level marks.

   Incorrect→Refill.

CAUTION:

Refill with distilled water only; tap water contains minerals harmful to a battery.

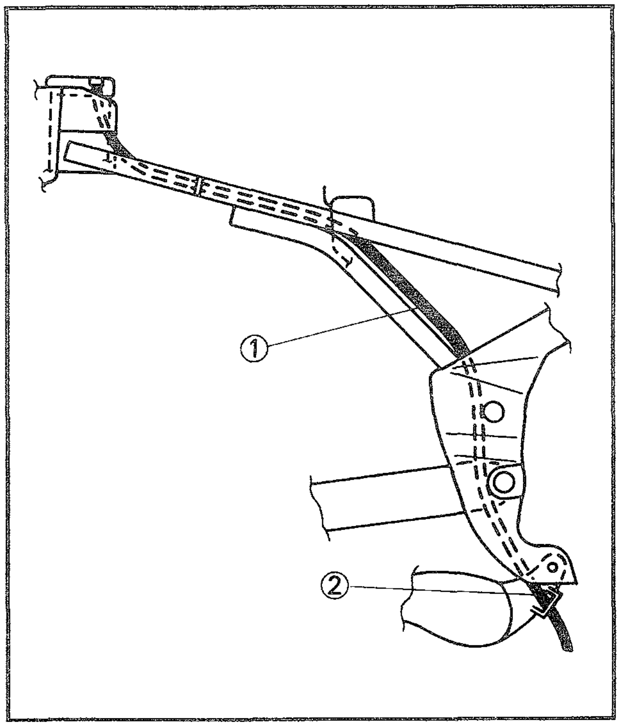
3. Inspect:
   - Battery terminal

     Dirty terminal→Clean with wire brush.

     Poor connection→Correct.

NOTE:

After cleaning the terminals, apply grease lightly to the terminals.



4. Connect:
   - Breather hose ①

     Be sure the hose is properly attached and routed.

② Pass the breather hose into the clamp.

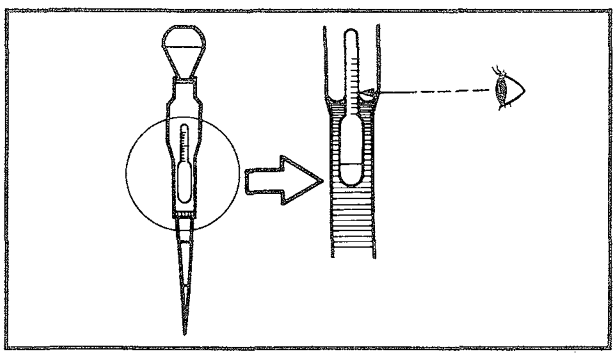
5. Inspect:
   - Breather hose

     Obstruction→Remove.

     Damage→Replace.

CAUTION:

When inspecting the battery, be sure the breather hose is routed correctly. If the breather hose touches the frame or exits in such a way as to cause battery electrolyte or gas to exit onto the frame, structural and cosmetic damage to the motorcycle can occur.



6. Check:
   - Specific gravity

     Less than 1.280→Recharge battery.

Charging Current:
0.4 amps/10 hrs (6V)
Specific Gravity:
1.280 at 20°C (68°F)

Replace the battery if:
- Battery voltage will not rise to a specific value or bubbles fail to rise even after many hours of charging.
- Sulfation of one or more cells occurs, as indicated by the plates turning white, or an accumulation of material exists in the bottom of the cell.
- Specific gravity readings after a long, slow charge indicate one cell to be lower than the rest.
- Warpage or buckling of plates or insulators is evident.



CAUTION:

Always charge a new battery before using it to ensure maximum performance.

WARNING:

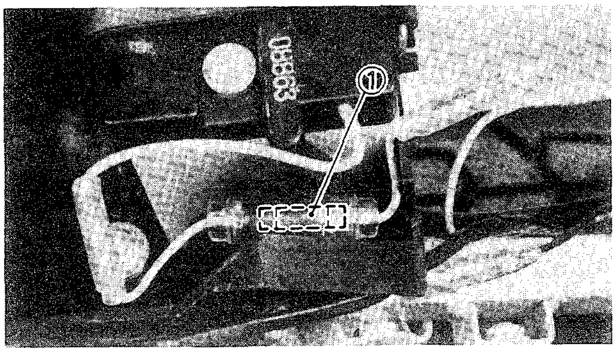
Battery electrolyte is dangerous; it contains sulfuric acid and therefore is poisonous and highly caustic.
Always follow these preventive measures:
- **Avoid bodily contact with electrolyte as it can cause severe burns or permanent eye injury.**
- **Wear protective eye gear when handling or working near batteries.**

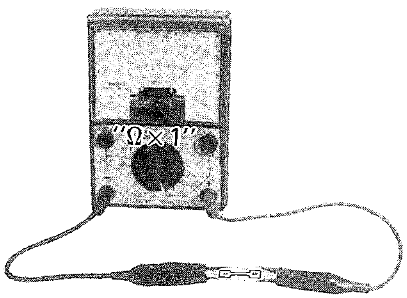
Antidote (EXTERNAL):
- **SKIN—Flush with water.**
- **EYES—Flush with water for 15 minutes and get immediate medical attention.**

Antidote (INTERNAL):
- **Drink large quantities of water of milk. Follow with milk of magnesia, beaten egg, or vegetable oil. Get immediate medical attention.**

Batteries also generate explosive hydrogen gas, therefore you should always follow these preventive measures:
- **Charge batteries in a well-ventilated area.**
- **Keep batteries away from fire, sparks, or open flames (e.g., welding equipment, lighted cigarettes, etc.)**

•DO NOT SMOKE When charging or handling batteries.
KEEP BATTERIES AND ELECTROLYTE OUT OF REACH OF CHILDREN.





FUSE INSPECTION

1. Remove:
   - •Front seat
   - •Side cover
   Refer to "SIDE COVER" section
2. Remove:
   - •Fuse ①
3. Inspect:
   - •Fuse

Inspection steps:
•Connect the Pocket Tester to the fuse and check it for continuity.

NOTE:
Set the tester selector to "Ω×1" position.

Pocket Tester:
YU-03112

•If the tester is indicated at ∞. The fuse is blown, replace it.

4. Replace:
   - •Blown fuse

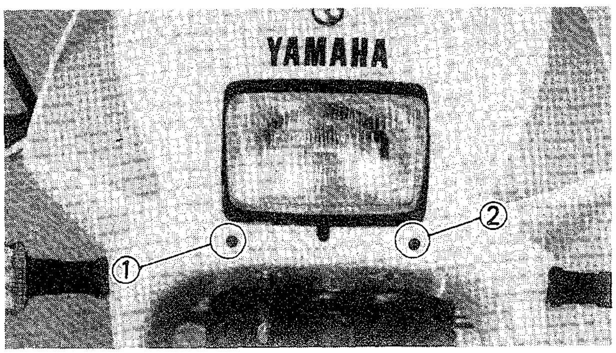
Blown fuse replacement steps:
•Turn off ignition and the circuit.
•Install a new fuse of proper amperage.

Fuse: 10A

•Turn on switches to verify operation of electrical device.
•If fuse blows immediately again, check circuit in question.

WARNING:

Do not use fuses of higher amperage rating than recommended. Extensive electrical system damage and fire could result from substitution of a fuse of improper amperage.



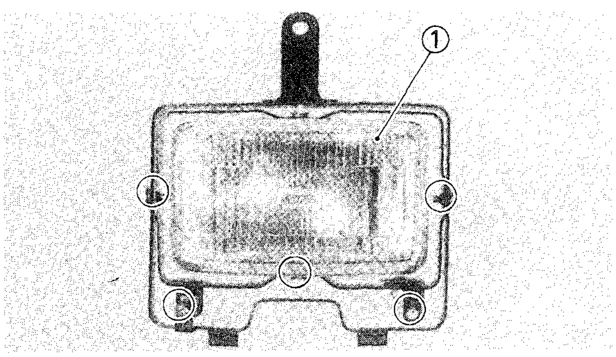
HEADLIGHT BEAM ADJUSTMENT

1. Adjust:
   - Headlight beam (Vertical)

To raise the beam	Turn the adjuster ① clockwise.
To lower the beam	Turn the adjuster ① counterclockwise.

2. Adjust
   - Headlight beam (Horizontal)

To right the beam	Turn the adjuster ② counterclockwise.
To left the beam	Turn the adjuster ② clockwise.



HEADLIGHT REPLACEMENT

1. Remove:
   - Lower cowling
   - Flasher lights (Left and right)
   - Flasher light stay

   Refer to "COWLINGS" section.
2. Remove:
   - Headlight ①
3. Install:
   - Headlight (New)
4. Install:
   - Flasher light stay
   - Flasher lights (Left and right)
   - Lower cowling
5. Adjust:
   - Headlight beam

   Refer to "HEADLIGHT BEAM ADJUSTMENT" section.

ENGINE OVERHAUL

ENGINE REMOVAL

NOTE:

- It is not necessary to remove the engine in order to remove the following components:
- Cylinder head
- Cylinder
- Piston and piston ring
- Clutch
- Primary drive gear
- Kick axle
- Shift shaft
- CDI magneto
- Autolube pump

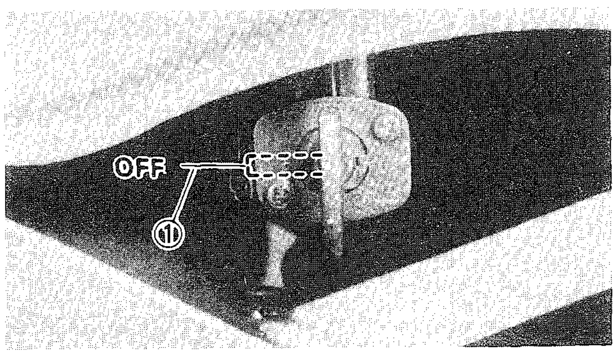
TRANSMISSION OIL

1. Drain:
   - Transmission oil
     Refer to "CHAPTER 3–TRANSMISSION OIL REPLACEMENT".

COWLING AND SIDE COVER

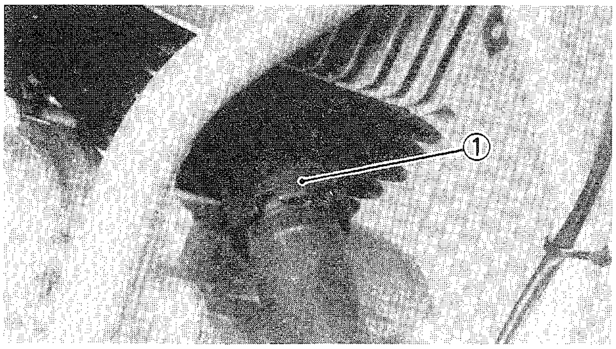
1. Remove:
   - Lower cowling
     Refer to "CHAPTER 3–COWLINGS" section.
   - Front seat
   - Side cover
     Refer to "CHAPTER 3–SIDE COVER" section.

4



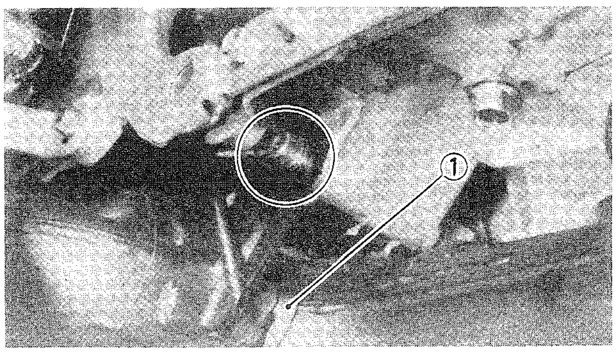
FUEL TANK

1. Turn the fuel cock to "OFF" position and disconnect the fuel hose ①.
2. Remove:
   - Fuel tank



MUFFLER

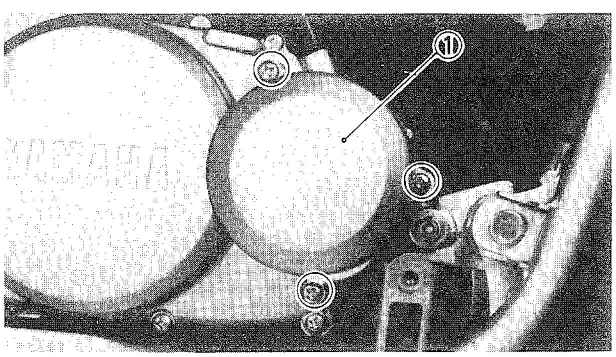
1. Remove:
   - Ring nut ①



2. Remove:
   - Muffler ①

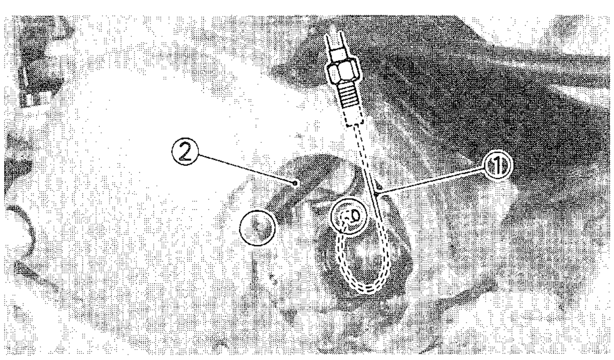
CARBURETOR

1. Remove:
   - Carburetor assembly
     Refer to the "CHAPTER 5—CARBURETOR" section.



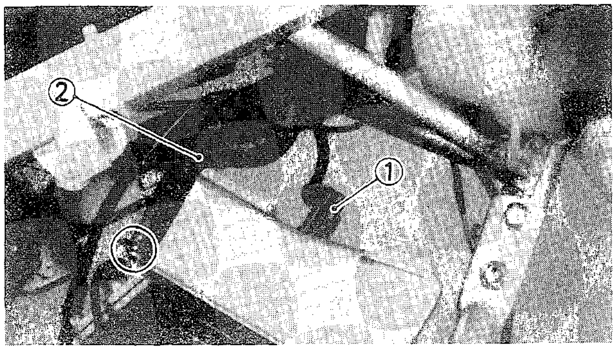
AUTOLUBE PUMP CABLE AND HOSE

1. Remove:
   - Autolube pump cover ①

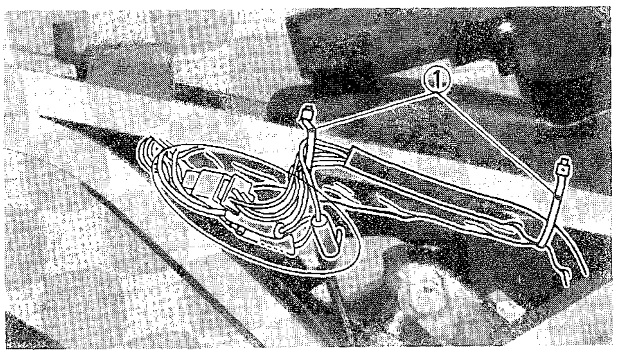


2. Disconnect:
   - Autolube pump cable ①
   - Oil hose ②

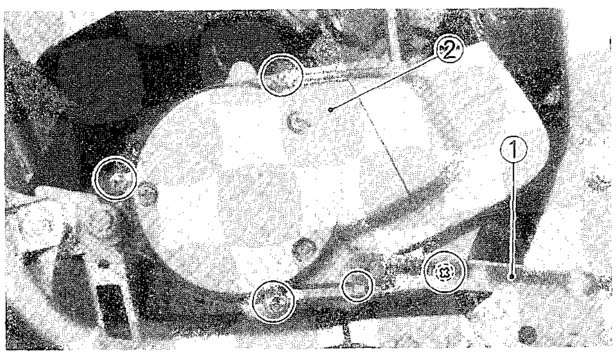
NOTE:
Plug the oil hose end with a suitable screw.



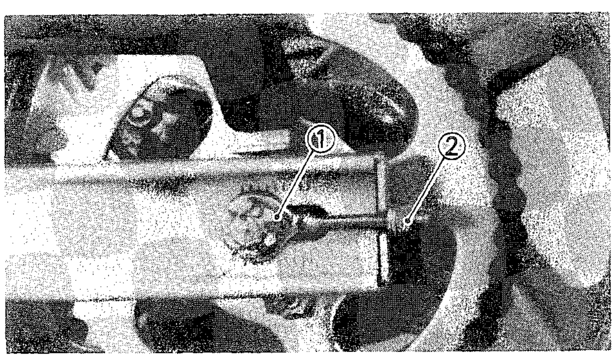
LEADS
1. Disconnect:
   - Spark plug lead ①
   - YEIS hose ②



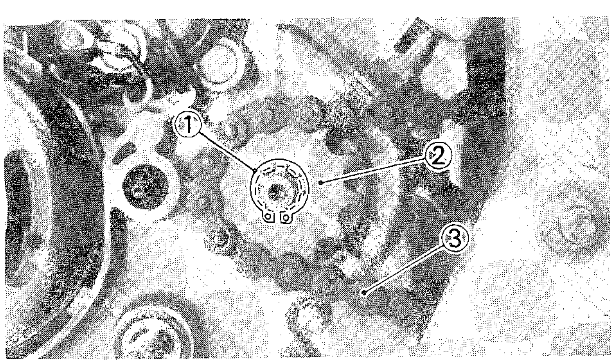
2. Disconnect:
   - CDI magneto leads
   - Neutral switch leads
3. Remove:
   - Bands ①



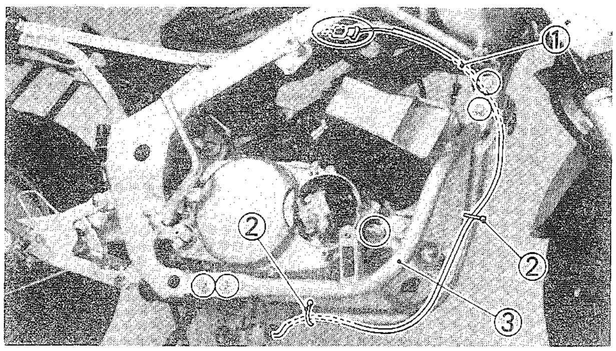
CLUTCH CABLE
1. Remove:
   - Change pedal ①
   - Crankcase cover (Left) ②
   - Gasket (Crankcase cover — Left)



DRIVE CHAIN
1. Loosen:
   - Nut (Rear wheel axle) ①
   - Adjuster ②
2. Push forward the rear wheel to loosen the drive chain.

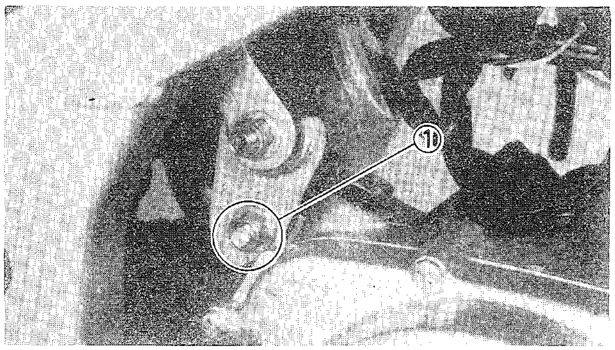


3. Remove:
   - Circlip ①
   - Drive sprocket ②
   - Drive chain ③

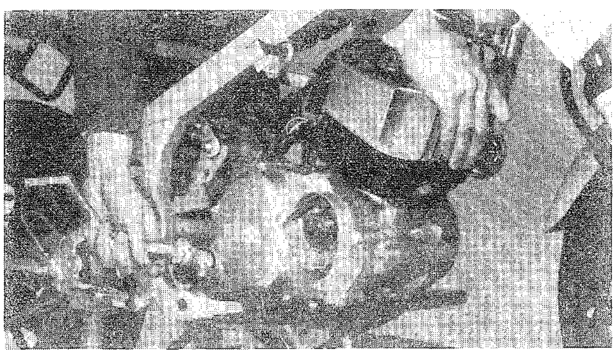


ENGINE REMOVAL

1. Remove:
   - Side stand switch leads ①
   - Bands ②
   - Down tube ③



2. Place a suitable stand under the engine.
3. Remove:
   - Bolt (Engine—Rear) ①
   - Engine assembly



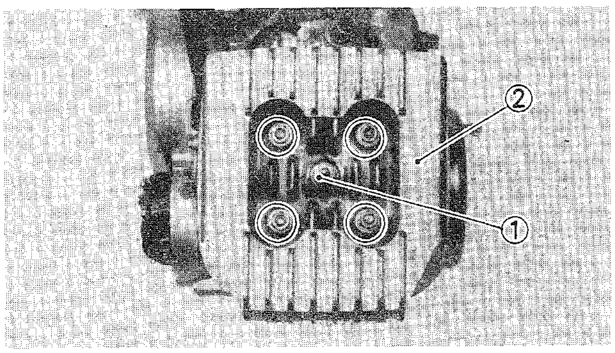
ENGINE DISASSEMBLY

CYLINDER HEAD, CYLINDER AND PISTON

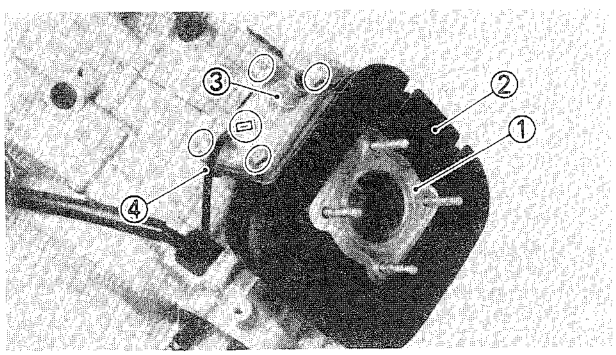
NOTE:

With the engine mounted, the cylinder head, cylinder and piston can be maintained by removing the following parts.

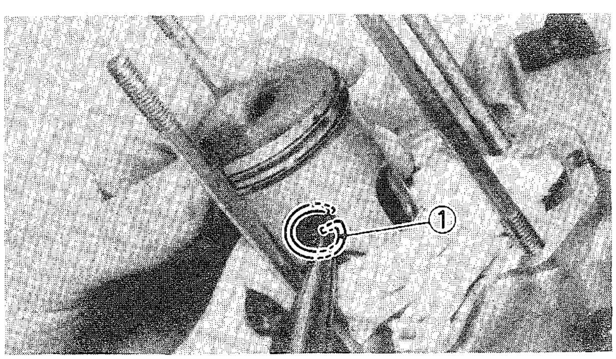
- Lower cowling
- Muffler



1. Remove:
   - Spark plug ①
   - Cylinder head ②



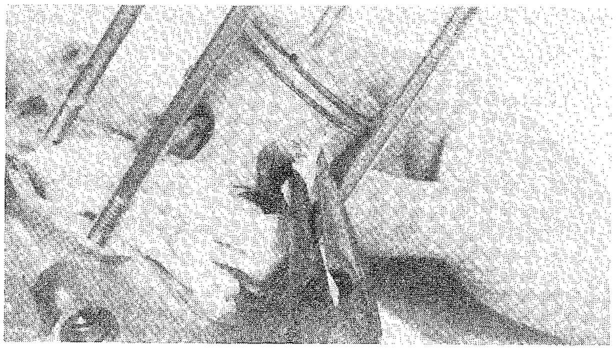
2. Remove:
   - Gasket (Cylinder head) ①
   - Cylinder ②
   - Gasket (Cylinder)
   - Intake manifold ③
   - Oil delivery hose ④
   - Reed valve
   - Gasket (Reed valve)



3. Remove:
   - Piston pin clip ①

NOTE:

Before removing piston pin circlip, cover crankcase with a clean rag to prevent circlip from falling into crankcase cavity.



4. Remove:
   - Piston pin
   - Piston
   - Small end bearing

NOTE:

Before removing the piston pin, deburr the clip grooved and pin hole area. If the piston pin groove is deburred and piston pin is still difficult to remove, use Piston Pin Puller.

Piston Pin Puller: **YU-01304**

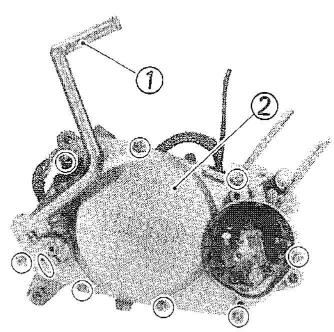
CAUTION:

Do not use a hammer to drive the piston pin out.

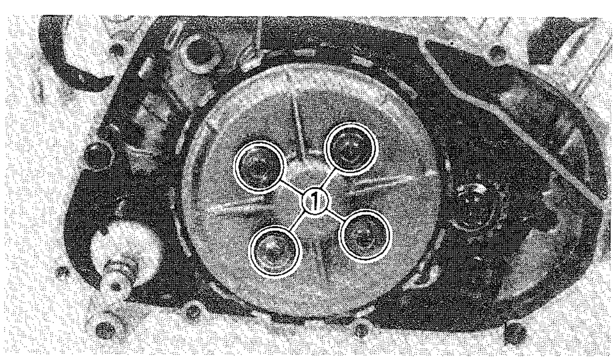
CLUTCH AND PRIMARY DRIVE GEAR

NOTE:

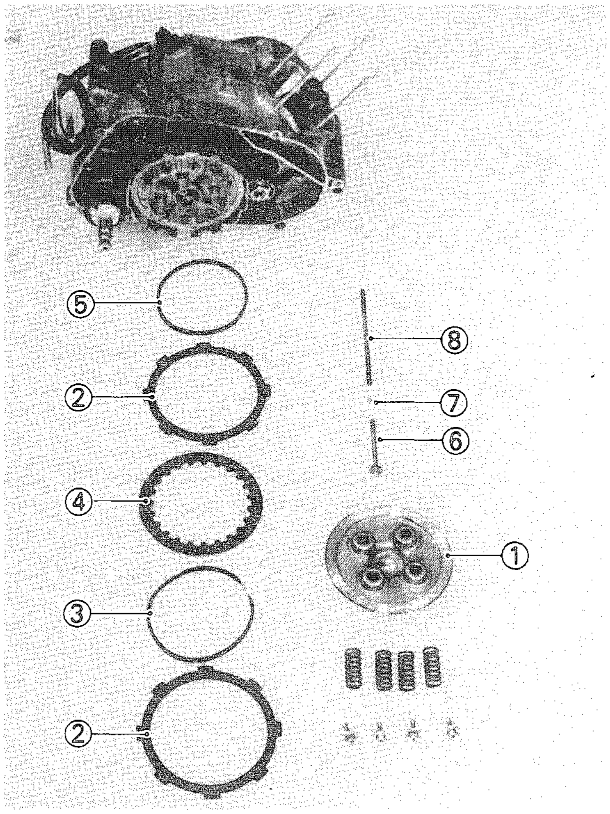
With the engine mounted, the clutch and primary drive gear can be maintained by removing the following parts.
- Lower cowl
- Autolube pump cable and hoses



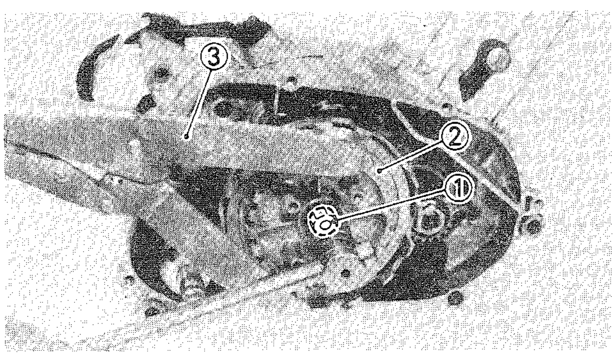
1. Remove:
   - Kick crank ①
   - Crankcase cover (Right) ②



2. Remove:
   - Bolts (Pressure plate) ①
   - Springs (Pressure plate)



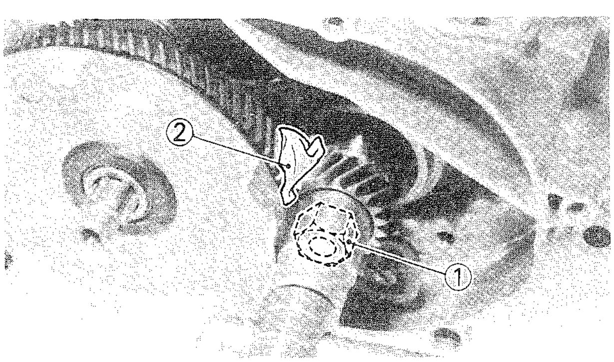
3. Remove:
   - Pressure plate ①
   - Friction plates ②
   - Cushion spring ③
   - Clutch plate ④
   - Clutch damper ⑤
   - Push rod #1 ⑥
   - Ball ⑦
   - Push rod #2 ⑧



4. Remove:
   - Nut (Clutch boss) ①
   - Conical spring washer
   - Clutch boss ②
   - Thrust washer

   Use the Universal Clutch Holder ③ to hold the clutch boss.

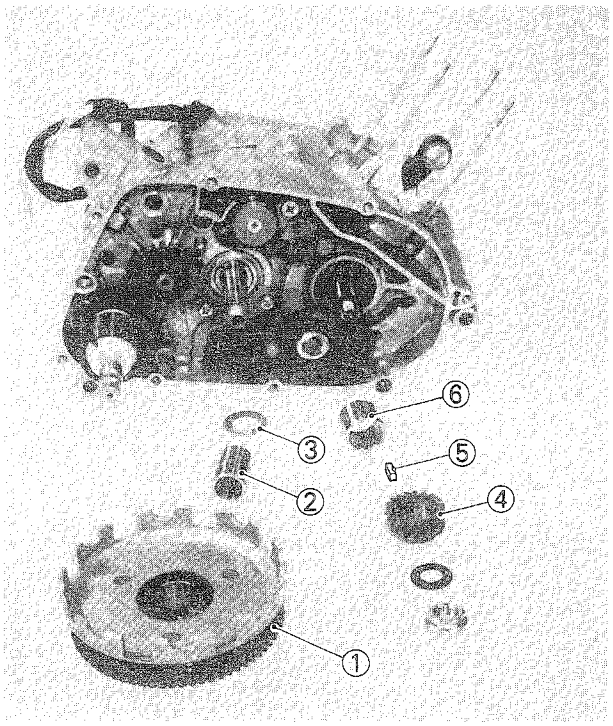
	Universal Clutch Holder: YM-91042



5. Remove:
   - Nut (Primary drive gear) ①
   - Conical spring washer

NOTE:

Place a folded rag ② between the teeth of the primary drive gear and driven gear.



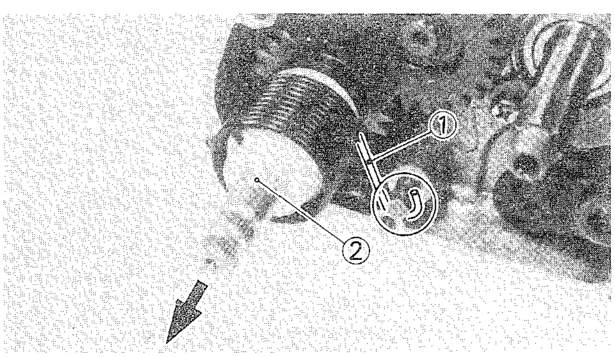
6. Remove:
   - Clutch housing ①
   - Spacer ②
   - Thrust washer ③
   - Primary drive gear ④
   - Straight key ⑤
   - Collar ⑥

KICK AXLE

NOTE:

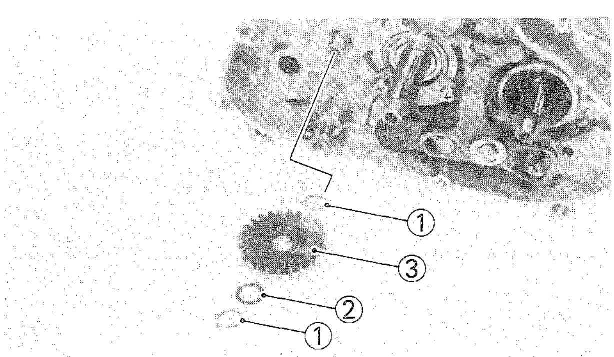
With the engine mounted, the kick axle and kick idle gear can be maintained by removing the following parts.

- Lower cowling
- Autolube pump cable and hoses
- Crankcase cover (Right)
- Clutch



1. Unhook the spring ①.

2. Remove:
   - Kick axle assembly ②



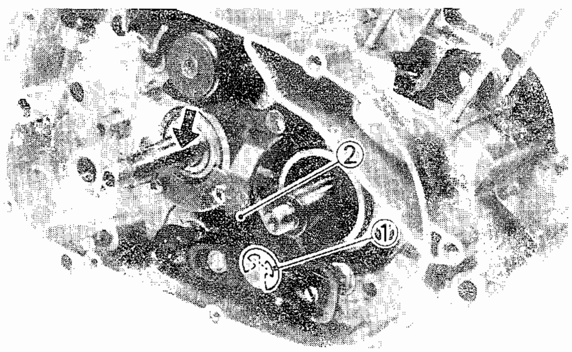
3. Remove:
   - Circlips ①
   - Washer ②
   - Kick idle gear ③

SHIFT SHAFT

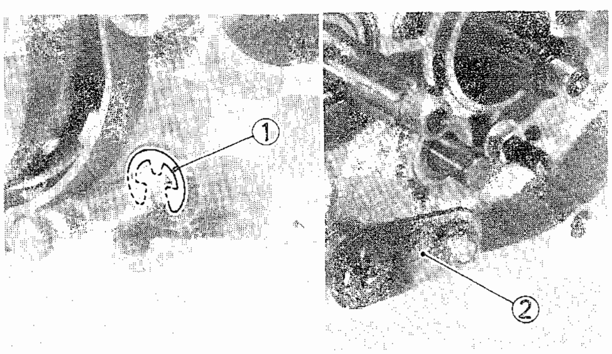
NOTE:

With the engine mounted, the shift shaft can be maintained by removing the following parts.

- Lower cowling
- Autolube pump cable and hoses
- Crankcase cover (Right)
- Clutch



1. Remove:
   - Circlip ①
   - Shift lever ②



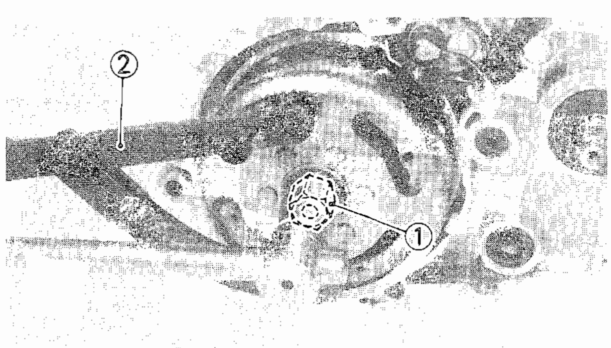
2. Remove:
   - Circlip (Change pedal side) ①
   - Washer
   - Shift shaft ②

CDI MAGNETO

NOTE:

With the engine mounted, the CDI magneto can be maintained by removing the following parts.

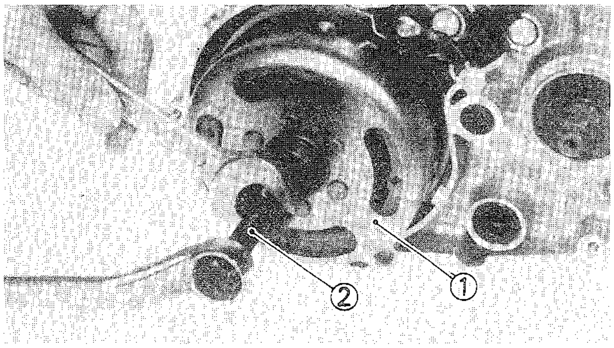
- Lower cowling



1. Remove:
   - Nut (Rotor) ①

   Use the Universal Rotor Holder ② to hold the CDI magneto.

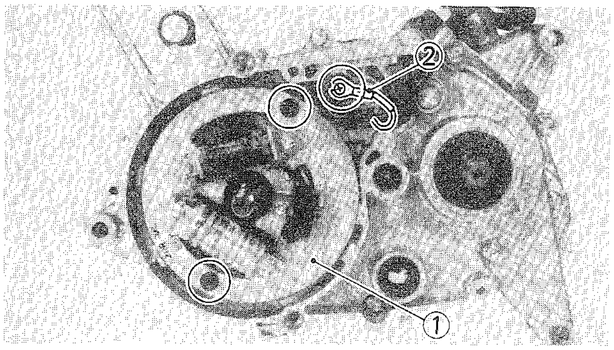
	Universal Rotor Holder: **YU-01235**



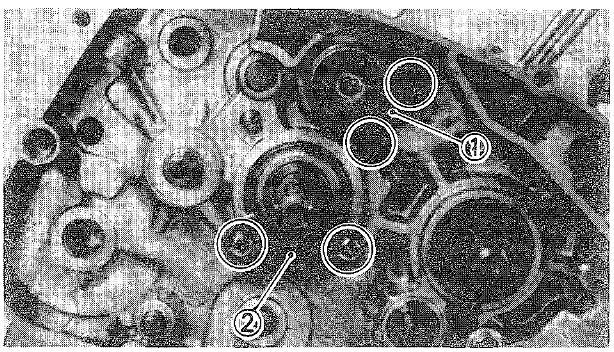
2. Remove:
   - Rotor ①
   - Woodruff key

   Use the Flywheel Puller ② to remove the rotor.

Flywheel Puller: P/N YM-01189

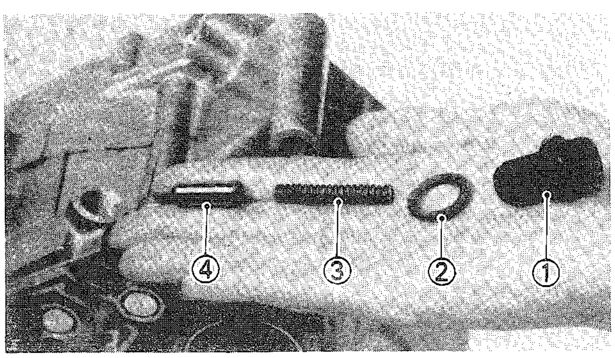


3. Remove:
   - Stator ①
   - Neutral switch lead ②

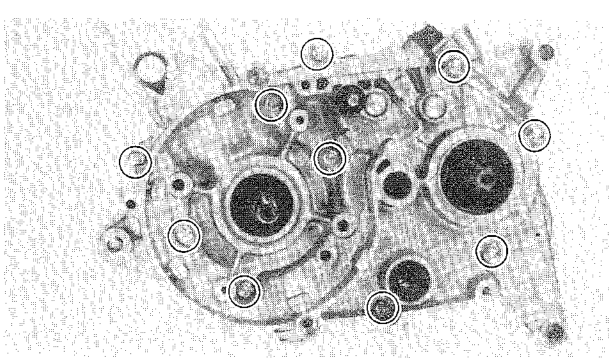


CRANKCASE

1. Remove:
   - Shifter holder ①
   - Bearing holder ②



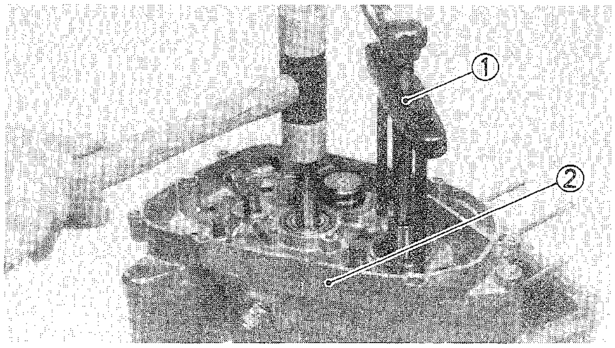
2. Remove:
   - Bolt (Shift cam stopper) ①
   - Gasket ②
   - Spring ③
   - Shift cam stopper ④



3. Remove:
   - Screws (Crankcase)

NOTE:

Working in a crisscross pattern, loosen all screws 1/4 turn each. Remove them after all are loosened.



4. Attach:
   - Crankcase Separating Tool ①

Crankcase Separating Tool: P/N YU-01135

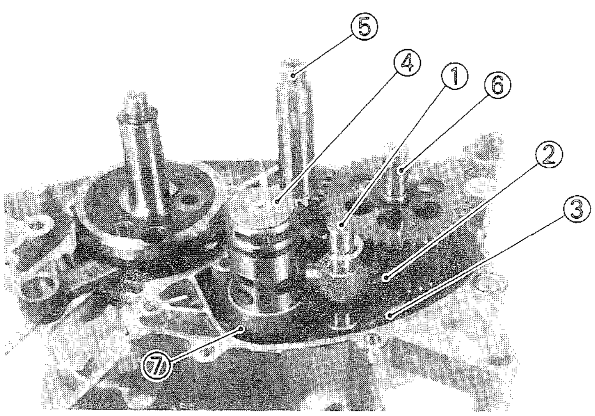
5. Remove:
   - Crankcase (Right) ②

NOTE:
- Fully tighten the tool holding bolts, but make sure the tool body is parallel with the case. If necessary, one screw may be backed out slightly to level tool body.
- As pressure is applied, alternately tap on the front engine mounting boss, transmission shafts, and shift cam.

CAUTION:

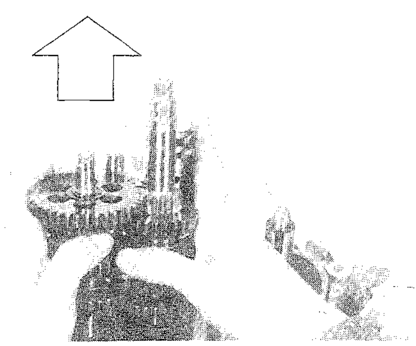
Use soft hammer to tap on the case half. Tap only on reinforced portions of case. Do not tap on gasket mating surface. Work slowly and carefully. Make sure the case halves separate evenly. If one end "hangs up," take pressure off the push screw, realign, and start over. If the cases do not separate, check for a remaining case screw or fitting. Do not force.

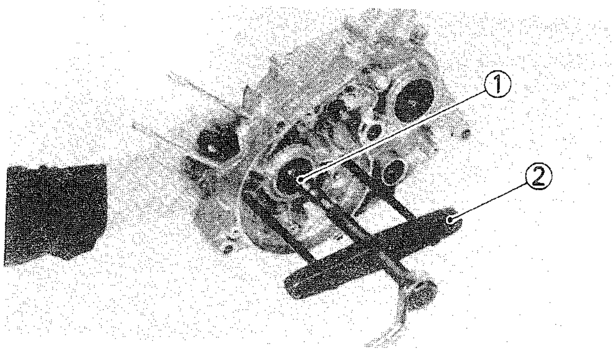
TRANSMISSION, SHIFTER AND CRANKSHAFT



1. Remove:
   - Guide bar (Shift fork) ①
   - Shift fork #2 ②
   - Shift fork #3 ③
   - Shift cam ④
   - Main axle ⑤
   - Drive axle ⑥
   - Shift fork #1 ⑦

   Remove the transmission assembly upward.





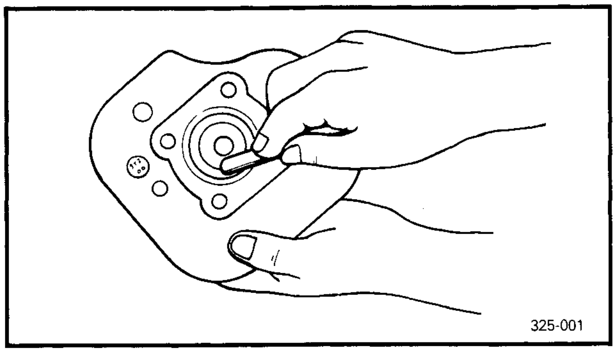
2. Remove:
   - Crankshaft ①

   Use the Crankcase Separating Tool ②.

	Crankcase Separating Tool: **YU-01135**

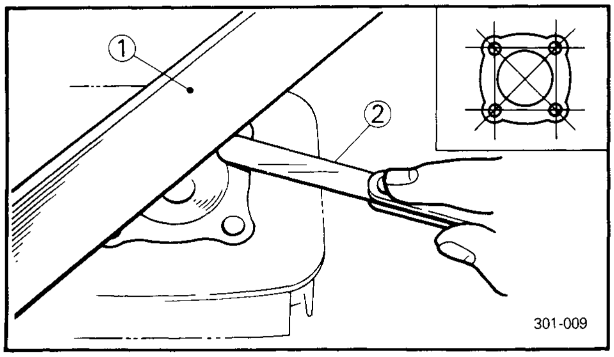
INSPECTION AND REPAIR

CYLINDER HEAD



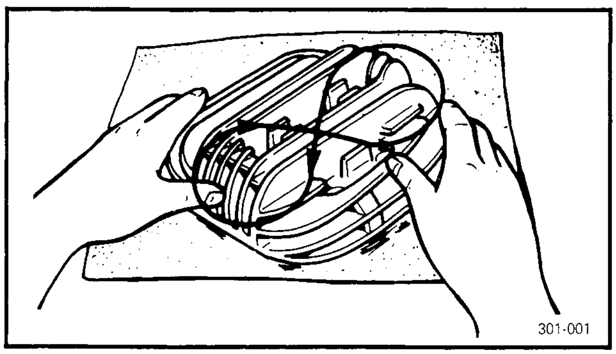
1. Eliminate:
   - Carbon deposits
     Use a rounded scraper.

NOTE:
Take care to avoid damaging the spark plug threads. Do not use a sharp instrument. Avoid scratching the aluminum.



2. Measure:
   - Cylinder ıead warpage
     Out of specification→Resurface.

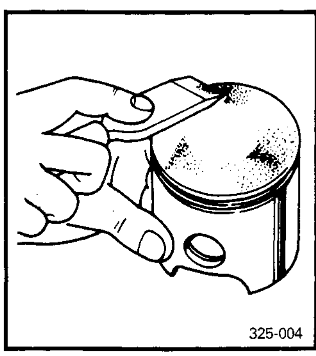
Warpage Limit:
0.02 mm (0.001 in)

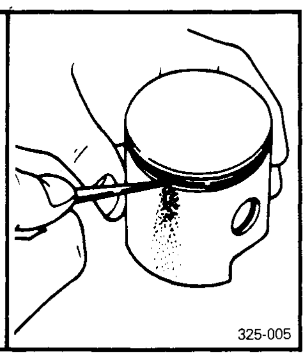


Warpage measurement and resurfacement steps:
- Attach a straight edge ① and a thickness gauge ② on the cylinder head.
- Measure the warpage.
- If the warpage is out of specification, resurface the cylinder head.
- Place a 400 ~ 600 grit wet sandpaper on the surface plate, and resurface the head using a figure-eight sanding pattern.

NOTE:
Rotate the head several times to avoid removing too much material from one side.

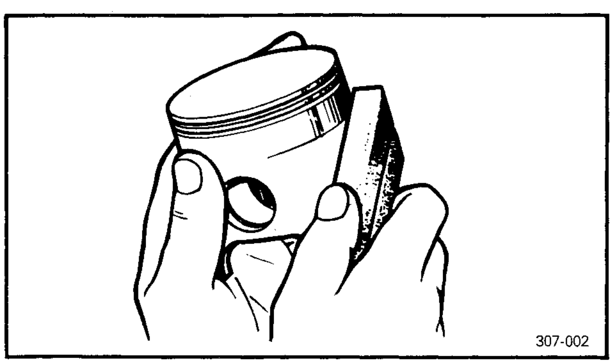
CYLINDER AND PISTON



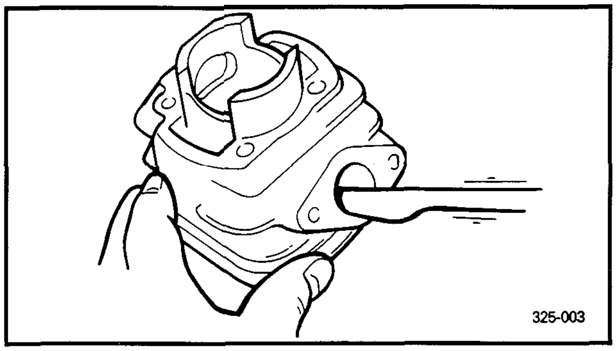


1. Eliminate:
   - Carbon deposits
     From the piston crown and ring grooves.
2. Eliminate:
   - Score marks and lacquer deposits
     From the sides of piston.
     Use a 600 ~ 800 grit wet sandpaper.

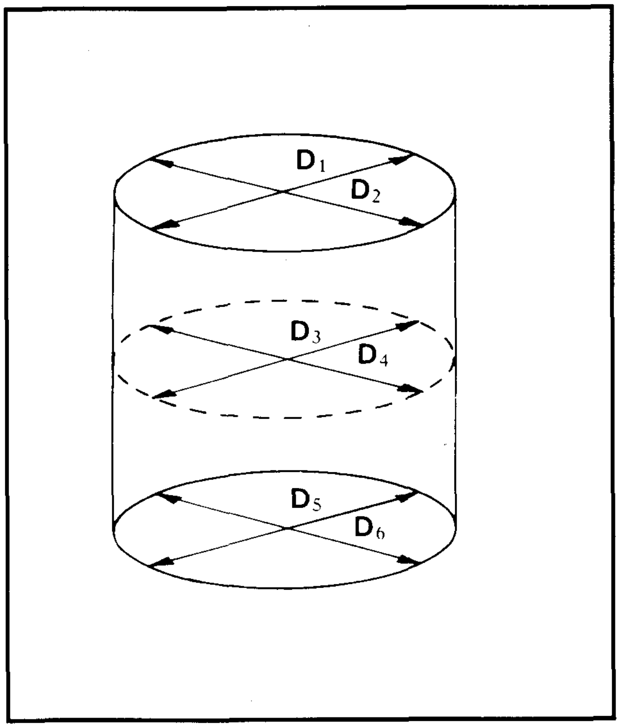
NOTE:
Sand in a crisscross pattern. Do not sand excessively.



3. Inspect:
   - Piston wall
     Wear/Scratches/Damage→Replace.



4. Remove:
   - Carbon deposits
     Use a rounded scraper.



5. Measure:
   - Piston-to-cylinder clearance

Piston-to-cylinder clearance measurement steps:

First Step:

- Measure the cylinder bore "C" with a Cylinder Bore Gauge.

NOTE:

Measure the cylinder bore "C" in parallel to and at right angles to the crankshaft. Then, find the average of the measurements.

	Standard	Wear Limit
Cylinder Bore "C"	40.00 ~ 40.02 mm (1.575 ~ 1.576 in)	40.1 mm (1.579 in)
Taper "T"	—	0.05 mm (0.0019 in)
Out of Round "R"	—	0.01 mm (0.0004 in)

C = Maximum D

T = (Maximum D_1, or D_2) − (Maximum D_5 or D_6)

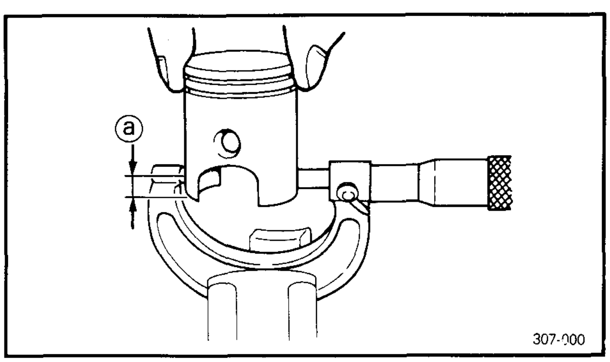
R = (Maximum D_1, D_3 or D_5) − (Minimum D_2 D_4 or D_6)

- If out of specification, rebore or replace cylinder, and replace piston and piston rings as a set.

Second Step:

- Measure the piston skirt diameter "P" with a micrometer.

ⓐ 5 mm (0.20 in) from the piston bottom edge.



	Piston size P
Standard	39.96 ~ 39.98 mm (1.573 ~ 1.574 in)
Oversize 1	40.25 mm (1.58 in)
Oversize 2	40.50 mm (1.59 in)

- If out of specification, replace piston and piston rings as a set.

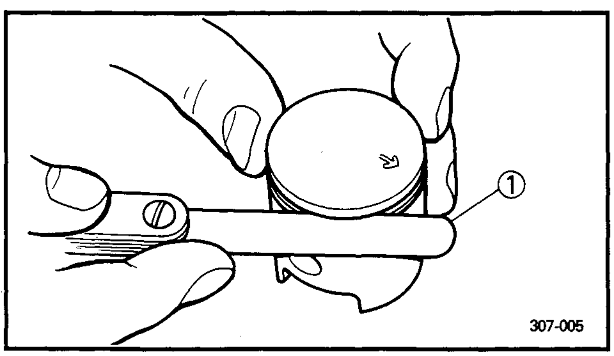
Third Step:

- Calculate the piston-to-cylinder clearance with following formula:

Piston-to-cylinder Clearance =
Cylinder Bore "C" –
Piston Skirt Diameter "P"

- If out of specification, rebore or replace cylinder, and replace piston and piston rings as a set.

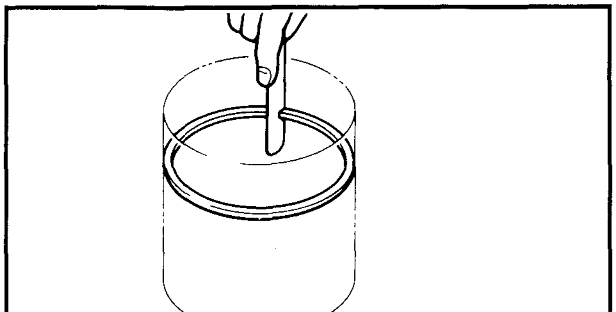
Piston-to-cylinder Clearance:
0.030 ~ 0.035 mm
(0.0012 ~ 0.0014 in)
Limit: 0.1 mm (0.004 in)



PISTON RINGS

1. Measure:
   - Side clearance
     Out of specification→Replace piston and/or rings.
     Use a Feeler Gauge ①.

Side Clearance	Top	0.03 ~ 0.05 mm (0.001 ~ 0.002 in)
	2nd	0.03 ~ 0.05 mm (0.001 ~ 0.002 in)


307-027

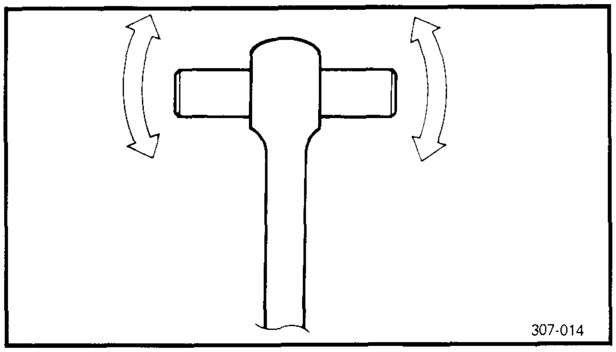
2. Install:
   - Piston ring
   Into the cylinder.
   Push the ring with the piston crown.
3. Measure:
   - End gap
   Out of specification→Replace rings as a set.
   Use a Feeler Gauge.

End Gap	Top	0.15~0.35 mm (0.006~0.014 in)
	2nd	0.15~0.35 mm (0.006~0.014 in)

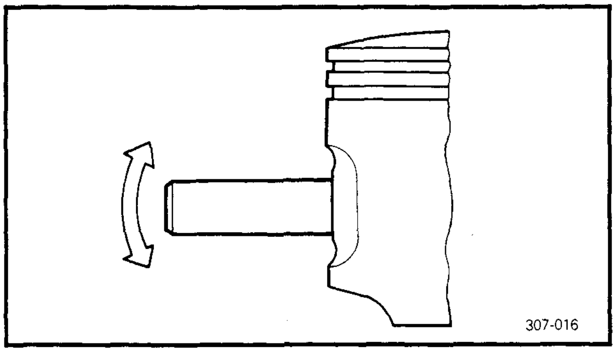
Oversize Piston Ring	
Oversize 1	25
Oversize 2	50

PISTON PIN AND BEARING

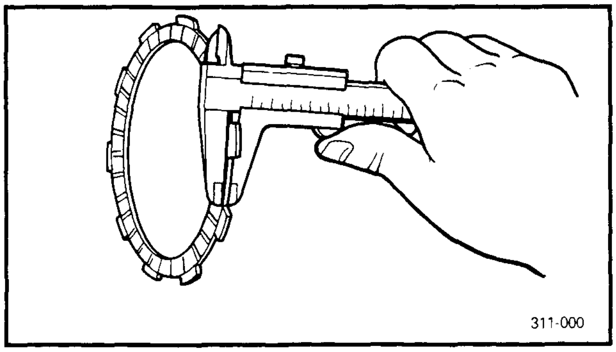
1. Lubricate:
   - Piston pin (Lightly)
2. Install:
   - Small end bearing
   - Piston pin
   Into the small end of connecting rod.


307-014

3. Check:
   - Free play
   There should be no noticeable free play.
   Free play exists→Inspect the connecting rod for wear/Replace the pin and/or connecting rod as required.
4. Install:
   - Piston pin
   Into the piston pin hole.



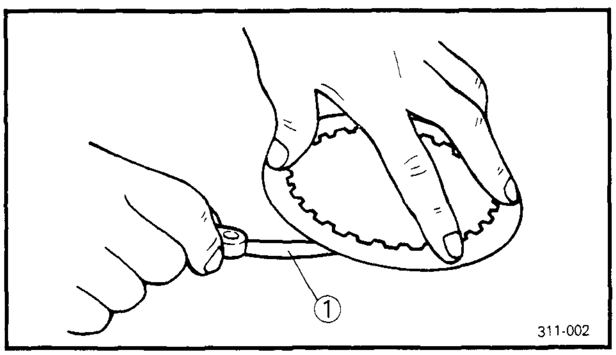
5. Check:
   - Free play (when the piston pin is in place in the piston)
     There should be no noticeable free play.
     Free play exists→Replace piston pin and/or piston.
6. Inspect:
   - Piston pin and bearing
     Signs of heat discoloration→Replace.



CLUTCH

1. Inspect:
   - Friction plate
     Damage/Wear→Replace friction plate as a set.
2. Measure:
   - Friction plate thickness
     Out of specification→Replace friction plate as a set.
     Measure at all four points.

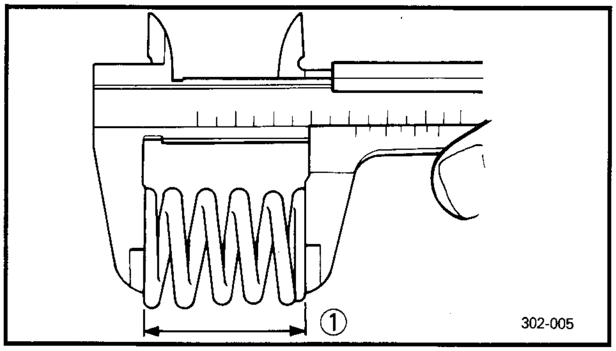
Wear Limit: 2.7 mm (0.106 in)



3. Inspect:
   - Clutch plate
     Damage→Replace clutch plate as a set.
4. Measure:
   - Clutch plate warpage
     Out of specification→Replace clutch plate as a set.
     Use a surface plate and Feeler Gauge ①.

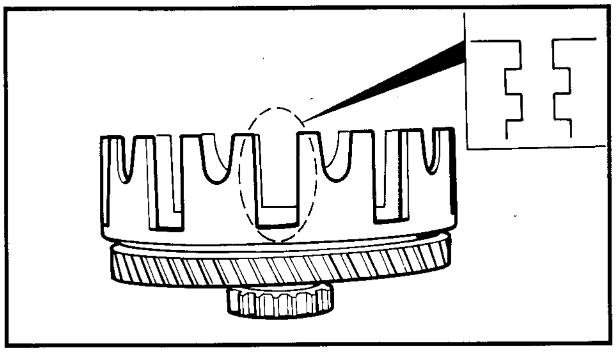
Warp Limit: 0.05 mm (0.002 in)

5. Inspect:
   - Clutch damper
     Wear/Damage→Replace.



6. Measure:
   - Clutch spring free length ①
     Out of specification→Replace spring as a set.

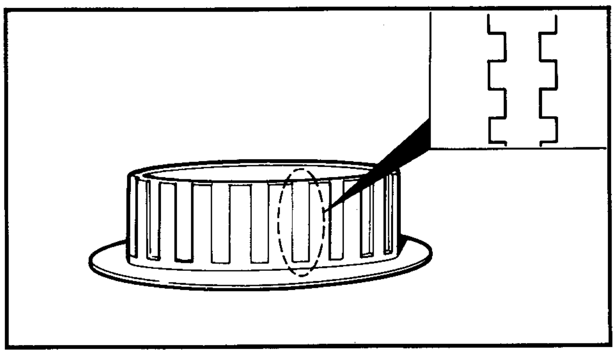
Clutch Spring Minimum Length:
26.2 mm (1.03 in)



7. Inspect:
   - Dogs on the clutch housing
     Cracks/Wear/Damage→Deburr or replace.
   - Clutch housing bearing
     Scoring/Wear/Damage→Replace clutch housing.

NOTE:

Scoring on the clutch housing dogs will cause erratic operation.

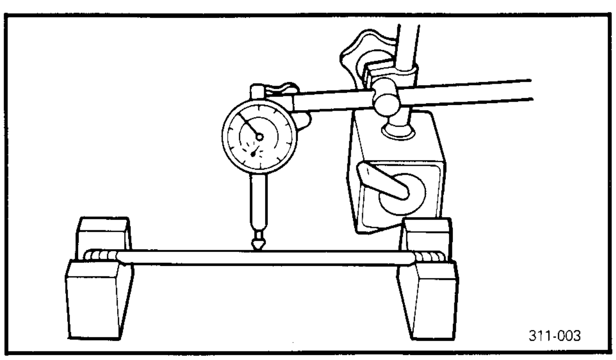


8. Inspect:
   - Clutch boss splines
     Scoring/Wear/Damage→Replace clutch boss.

NOTE:

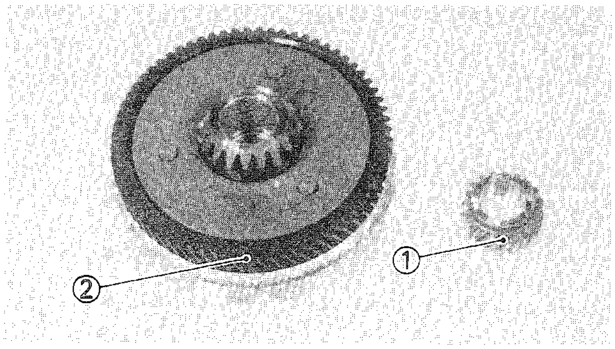
Scoring on the clutch boss splines will cause erratic operation.

9. Check:
   - Circumferential play
     Free play exists→Replace.



10. Measure:
    - Push rod runout
      Out of specification→Replace.

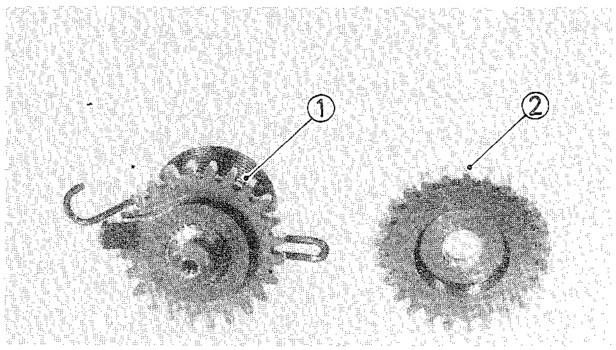
Bending Limit:
0.2 mm (0.008 in)



PRIMARY DRIVE

1. Inspect:
   - Primary drive gear teeth ①
   - Primary driven gear teeth ②

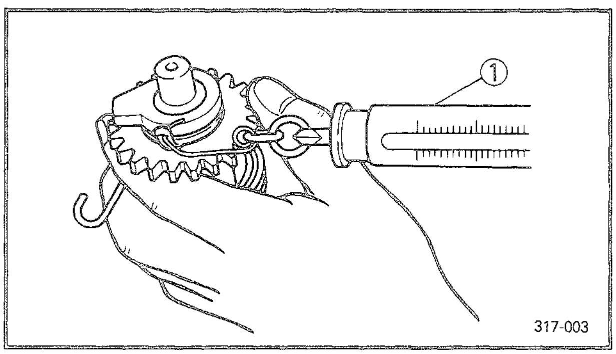
   Wear/Damage→Replace both gears.
   Excessive noises during operation→Replace both gears.



KICK STARTER

1. Inspect:
   - Kick gear teeth ①
   - Kick idle gear teeth ②

   Damage/wear→Replace both gears.



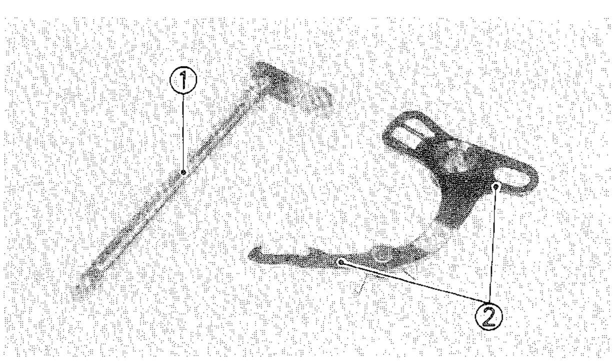
2. Measure:
   - Kick clip tension

   Out of specification→Replace.
   Use a spring balance ①.

Kick Clip Tension:
0.8 ~ 1.3 kg (1.76 ~ 2.87 lb)

CAUTION:

Do not try to bend the clip.

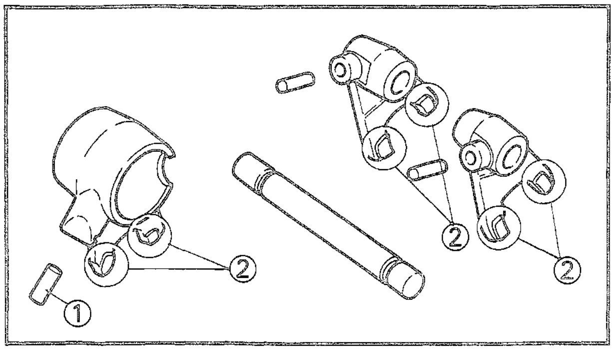


SHIFT SHAFT

1. Inspect:
   - Shift shaft ①

     Damage/Bends/Wear→Replace.
   - Shift lever ②

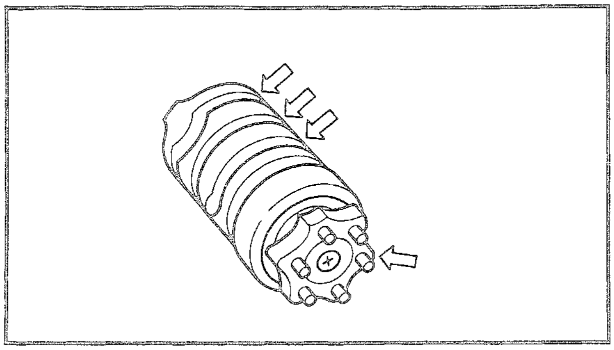
     Wear/Damage→Replace.



TRANSMISSION AND SHIFTER

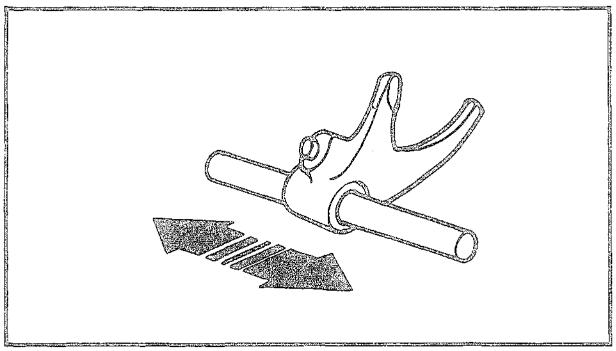
1. Inspect:
   - Shift fork cam follower ①
   - Shift fork pawl ②

   Scoring/Bends/Wear→Replace.



2. Inspect:
   - Shift cam groove
   - Shift cam segment

   Wear/Damage→Replace.



3. Check:
   - Shift fork movement

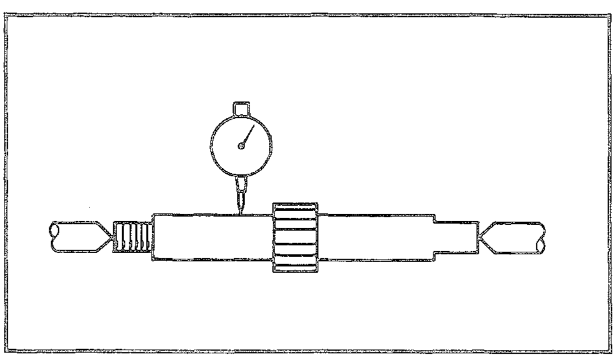
   Unsmooth operation→Replace shift fork and/or guide bar.

4. Inspect:
   - Guide bar

   Roll the guide bar on a flat surface.
   Bends→Replace.

WARNING:

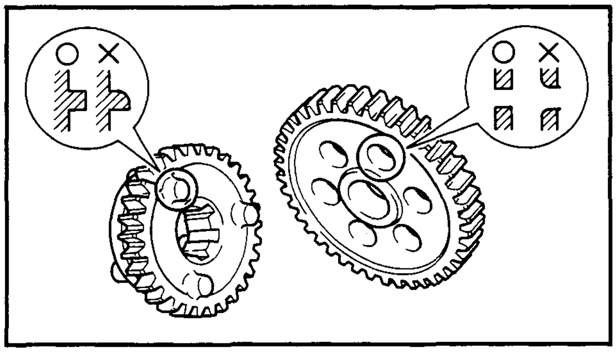
Do not attempt to straighten a bent guide bar.



5. Measure:
   - Axle runout

   Use centering device and dial gauge.
   Out of specification→Replace bent axle.

Runout Limit:
0.08 mm (0.003 in)

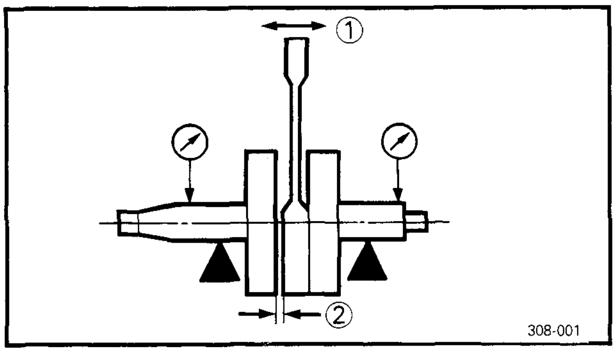


6. Inspect:
   - Gear teeth
     Blue discoloration/Pitting/Wear→Replace.
   - Mated dogs
     Rounded edges/Cracks/Missing portions→Replace.

7. Check:
   - Proper gear engagement (Each gear) (to its counterpart)
     Incorrect→Reassemble.
   - Gear movement
     Roughness→Replace.

8. Inspect:
   - Circlips
     Damage/Looseness/Bends→Replace.

CRANKSHAFT



1. Measure:
   - Runout
     Use a centering device and Dial Gauge.
     Out of specification→Replace or repair.

Runout Limit:
0.03 mm (0.0012 in)

2. Measure:
   - Small end free play ①
     Use a Dial Gauge.
     Out of specification→Replace the defective parts.

Small End Free Play:
0.8 ~ 1.0 mm (0.032 ~ 0.039 in)
<Limit>:
<1.5 mm (0.060 in)>

3. Measure:
   - Big end side clearance ②
     Use a Feeler Gauge.
     Out of specification→Replace the defective parts.

Big End Side Clearance:
0.2 ~ 0.7 mm (0.008 ~ 0.028 in)
<Limit>
<1.0 mm (0.04 in)>

4. Inspect:
   - Crankshaft bearing
     Pitting/Damage→Replace.

NOTE:
Lubricate the bearings immediately after examining them to prevent rust.

5. Inspect:
   - Oil seals
     Wear/Damage→Replace.

CRANKCASE

1. Thoroughly wash the case halves in mild solvent.
2. Clean all the gasket mating surfaces and crankcase mating surfaces thoroughly.
3. Inspect:
   - Crankcase
     Cracks/Damage→Replace.
   - Oil delivery passages
     Clog→Blow out with compressed air.

AUTOLUBE PUMP

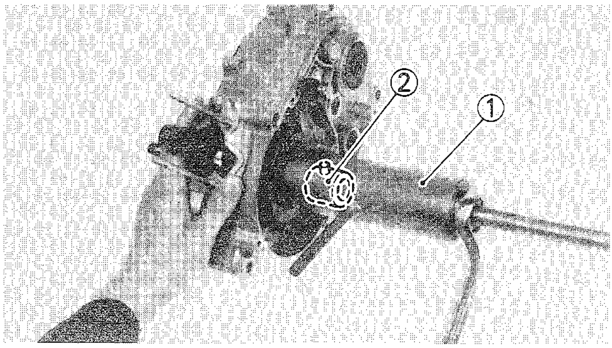
Wear or an internal malfunction may cause pump output to vary from the factory setting. This situation is, however, extremely rare. If improper output is suspected, inspect the following:

1. Inspect:
   - Delivery line
     Obstructions→Blow out.
   - Pump body seal/Crankcase cover seal
     Wear/Damage→Replace.
   - Check ball/Spring
     Miss/Improper→Repair.
2. Inspect:
   - Allowing air
     Air exists→Air bleed.

3. Check:
   - Pump output
     Out of specification→Adjust.

Minimum Output/200 Stroke:
0.50 ~ 0.63 cm^3
Maximum Output/200 Stroke:
4.64 ~ 5.15 cm^3

4. Inspect:
   - Oil hose
   - Oil delivery hose
     Crack/Damage/Clog→Replace.



ENGINE ASSEMBLY AND ADJUSTMENT

CRANKSHAFT, SHIFTER AND TRANSMISSION

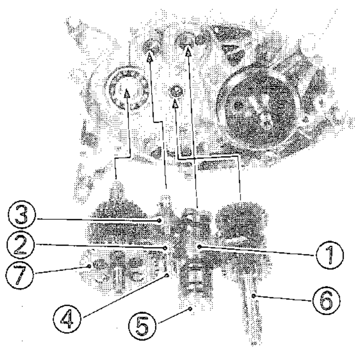
1. Attach:
   - Crankshaft Installing Tool ①
   - Adapter ②

> **Crankshaft Installing Tool:**
> **YU-90050**
> **Adapter:**
> **YU-90063**

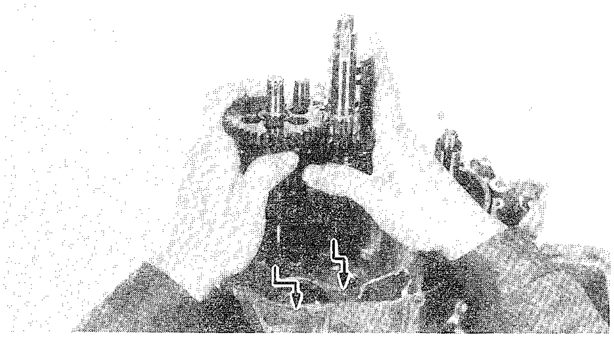
2 Install:
   - Crankshaft
     To Crankcase (Left)

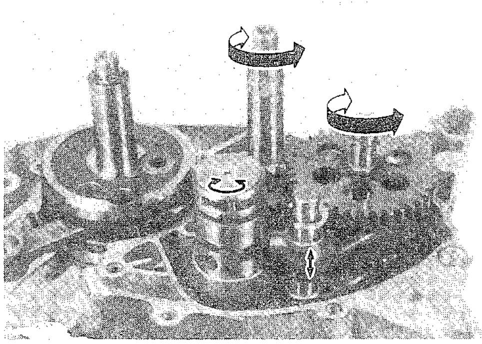
CAUTION:

Hold the connecting rod at top dead center with one hand while turning the nut of the Installing Tool with the other. Operate the Installing Tool until the crankshaft bottoms against the bearing.

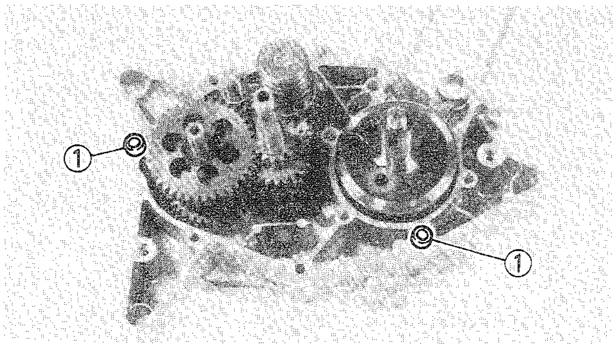


3. Install:
   - Shift fork #1 ①
   - Shift fork #2 ②
   - Shift fork #3 ③
   - Guide bar (Shift fork) ④
   - Shift cam ⑤
   - Main axle assembly ⑥
   - Drive axle assembly ⑦





4. Check:
   - Shifter operation
   - Transmission operation
     Unsmooth operation→Repair.



CRANKCASE

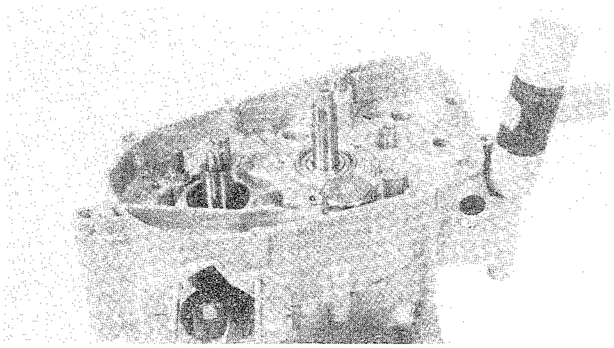
1. Apply:
   - Yamabond No.4

   To the mating surfaces of both crankcase halves.

> **Yamabond No.4:**
> **ACC-11001-30-00**

2. Install:
   - O-rings
   - Dowel pins ①

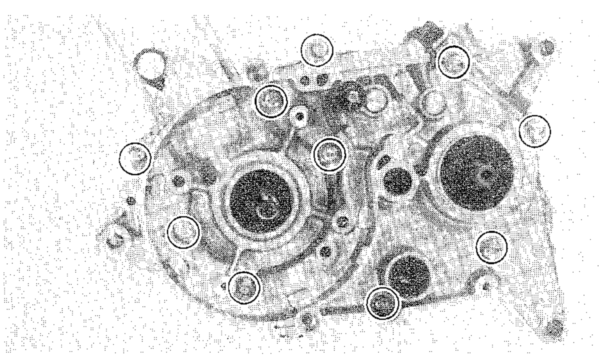
   Onto the crankcase (Lower)



3. Fit the right crankcase onto the left case. Tap lightly on the case with a soft hammer.

CAUTION:

Before installing and torquing the crankcase holding screws, be sure to check whether the transmission is functioning properly by manually rotating the shift cam either way.



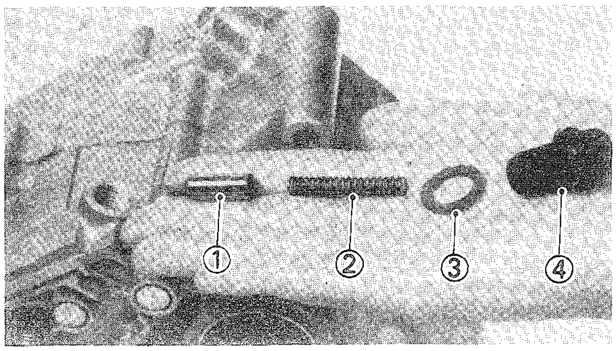
4. Tighten:
   - Screw (Crankcase)

NOTE:

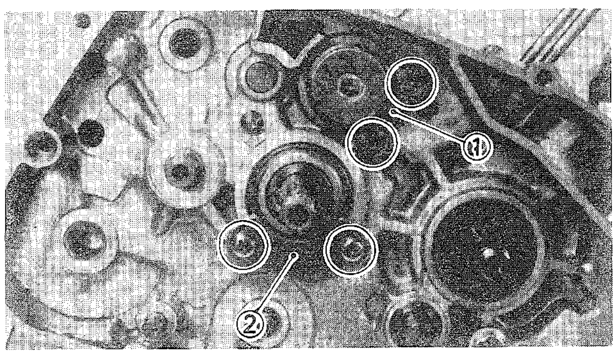
Tighten the crankcase tightening screws in stages, using a crisscross pattern.

> **Screws (Crankcase):**
> **8 Nm (0.8 m•kg, 5.8 ft•lb)**

5. Remove:
   - Bond
     Forced out on-the cylinder mating surface.
6. Apply:
   - 2-stroke oil
     To the crank pin, bearing and oil delivery hole.
7. Check:
   - Crankshaft and transmission operation
     Unsmooth operation→Repair.



8. Install:
   - Shift cam stopper ①
   - Spring ②
   - Gasket (New) ③
   - Bolt (Shift cam stopper) ④

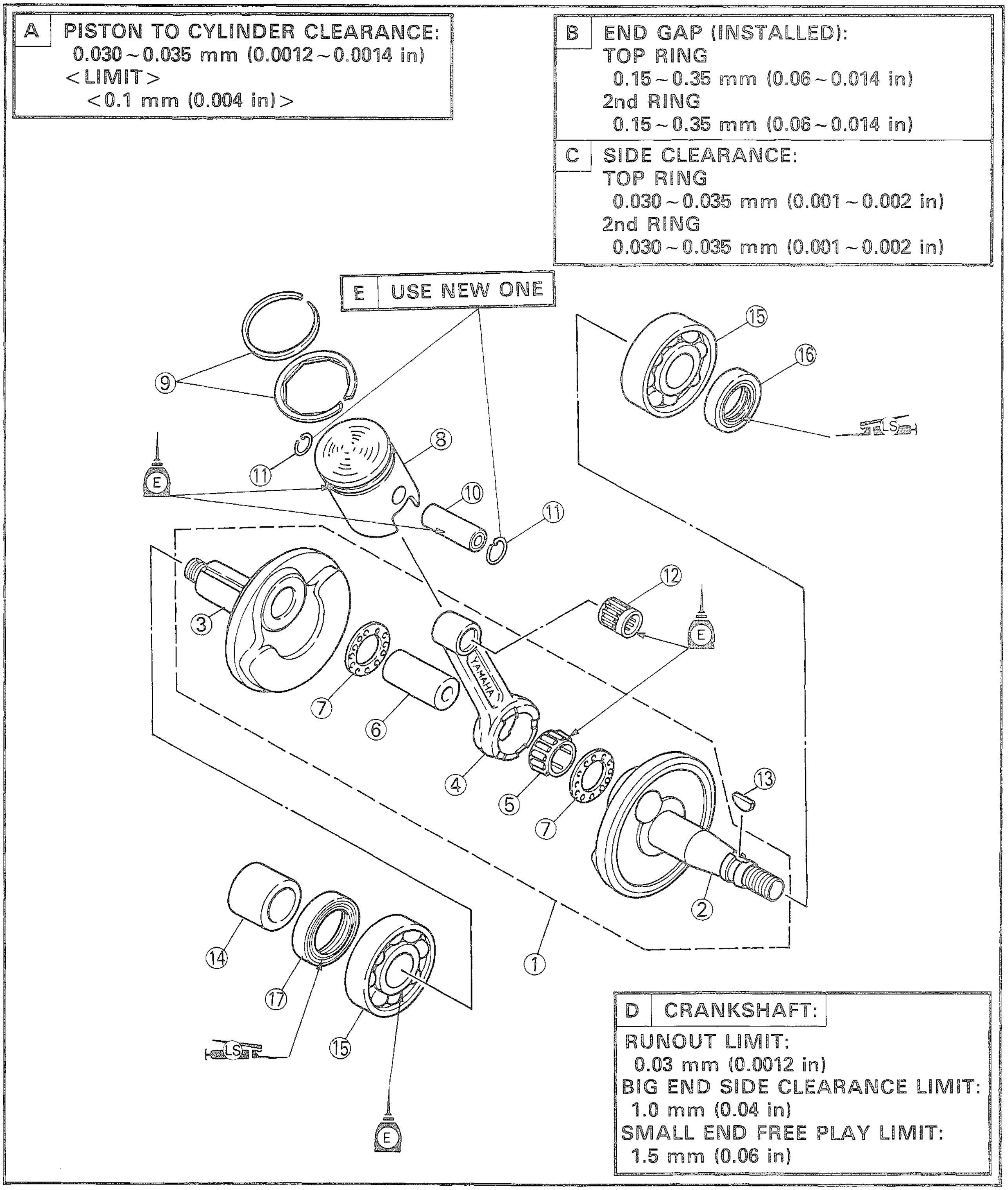


9. Install:
   - Shifter holder ①
   - Bearing holder ②

> Screws (Bearing Holder):
> 8 Nm (0.8 m•kg, 5.8 ft•lb)
> LOCTITE®
> Screw (Shifter Holder):
> 8 Nm (0.8 m•kg, 5.8 ft•lb)
> LOCTITE®

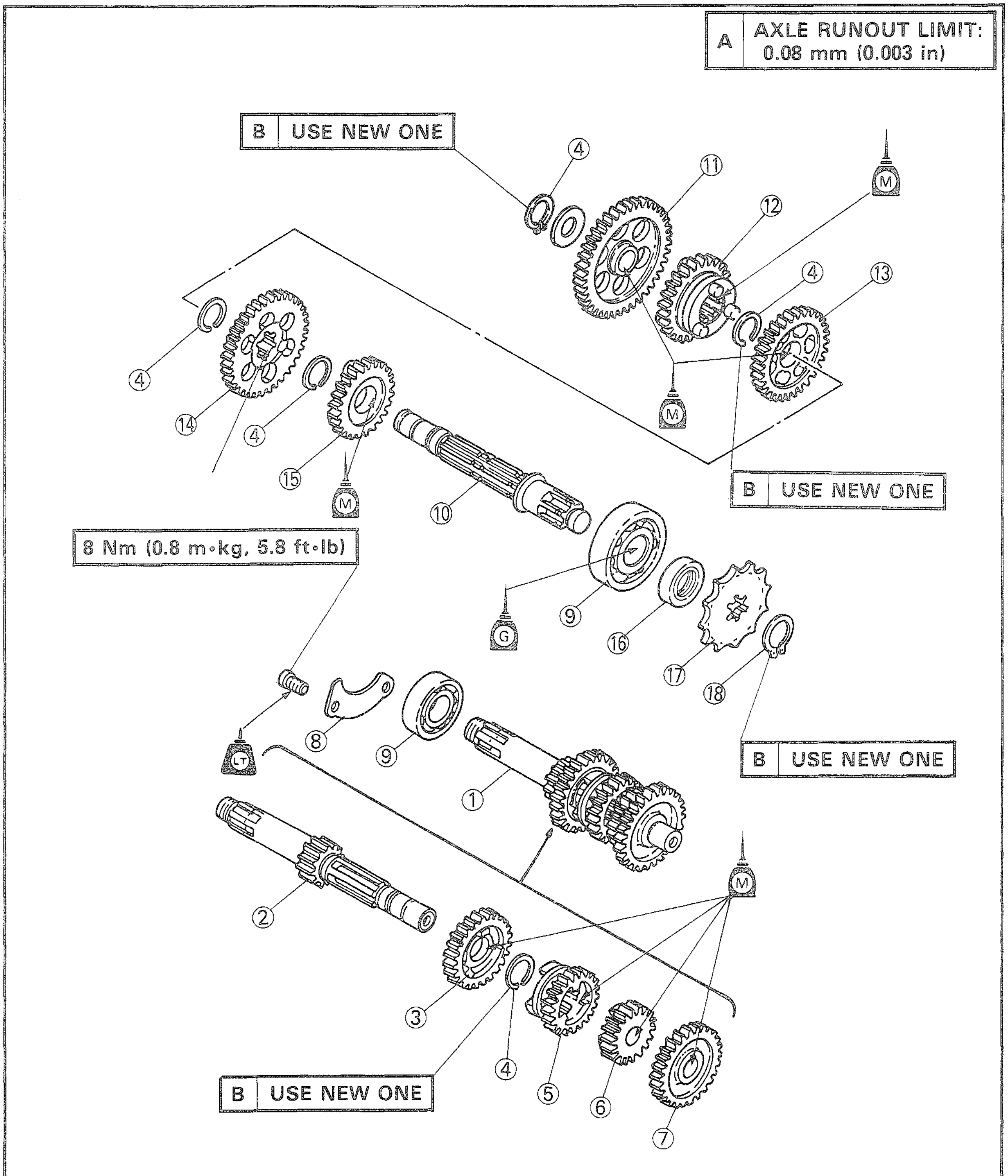
CRANKSHAFT, PISTON AND PISTON RING

① Crankshaft assembly
② Crank (Left)
③ Crank (Right)
④ Connecting rod
⑤ Big end bearing
⑥ Crank pin
⑦ Bearing
⑧ Piston
⑨ Piston ring set
⑩ Piston pin
⑪ Piston pin clip
⑫ Small end bearing
⑬ Woodruff key
⑭ Collar
⑮ Bearing
⑯ Oil seal (Left)
⑰ Oil seal (Right)



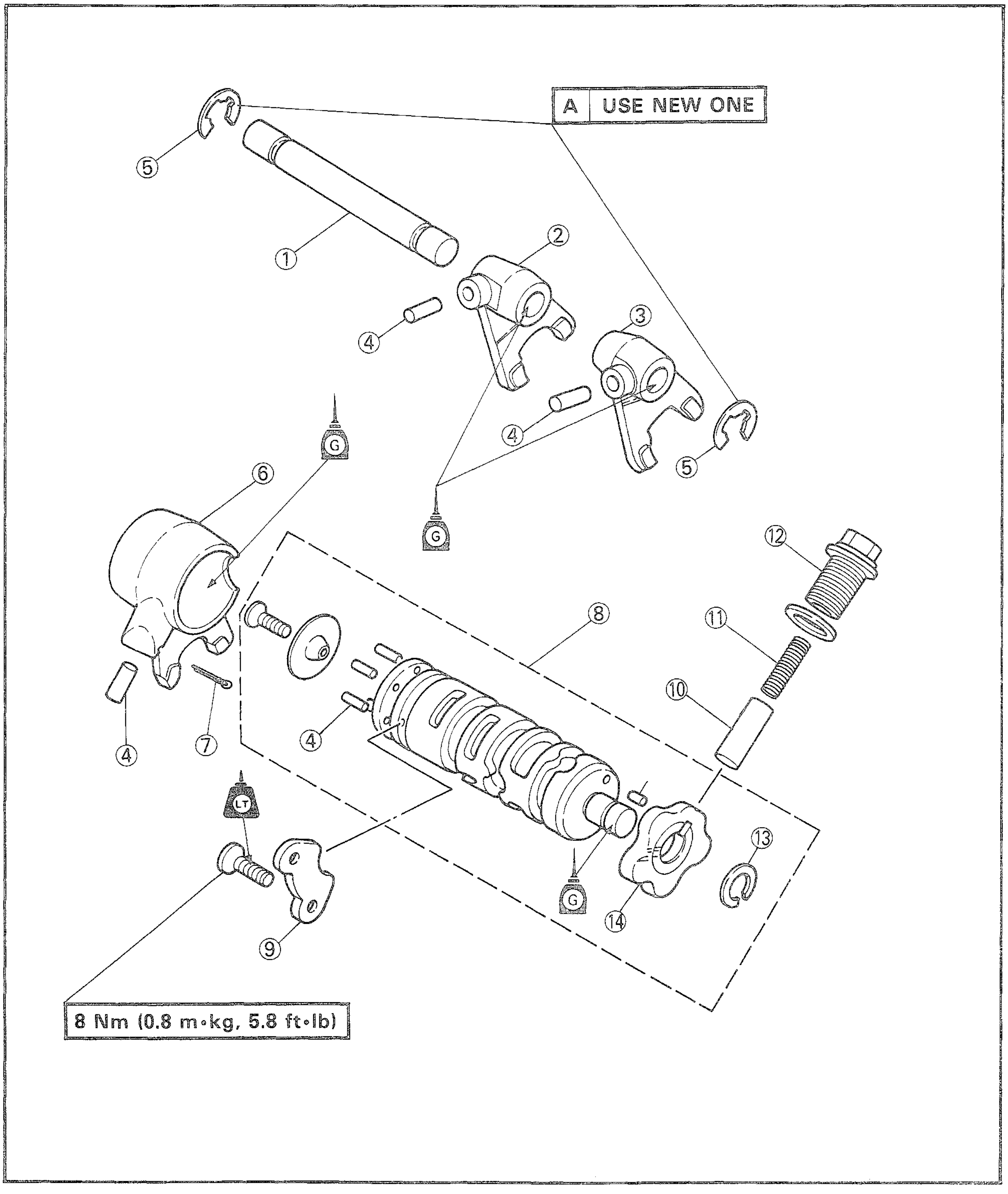
TRANSMISSION

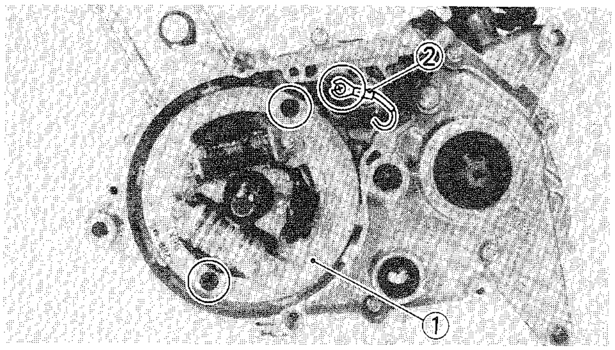
① Main axle assembly
② Main axle
③ 4th pinion gear
④ Circlip
⑤ 3rd pinion gear
⑥ 2nd pinion gear
⑦ 5th pinion gear
⑧ Bearing holder
⑨ Bearing
⑩ Drive axle
⑪ 1st wheel gear
⑫ 4th wheel gear
⑬ 3rd wheel gear
⑭ 2nd wheel gear
⑮ 5th wheel gear
⑯ Oil seal
⑰ Drive sprocket
⑱ Circlip



SHIFTER

① Guide bar (Shift fork)
② Shift fork #2
③ Shift fork #3
④ Pin
⑤ Circlip
⑥ Shift fork #1
⑦ Cotter pin
⑧ Shift cam assembly
⑨ Shift cam plate
⑩ Shift cam stopper
⑪ Spring
⑫ Bolt
⑬ Circlip
⑭ Segment

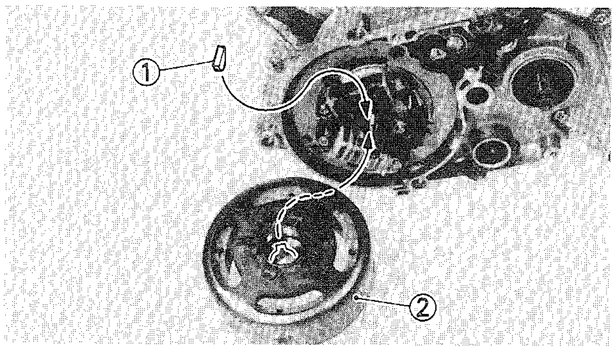




CDI MAGNETO

1. Install:
   - Stator ①
   - Neutral switch lead ②

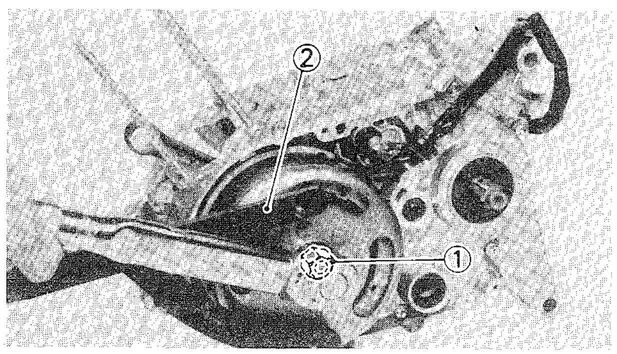
Bolts (Stator): 8 Nm (0.8 m•kg, 5.8 ft•lb)



2. Install:
   - Woodruff key ①
   - Rotor ②

NOTE:

When installing the rotor, make sure the woodruff key is properly seated in the keyway of the crankshaft.
Clean the tapered portion of the crankshaft end with a cloth.



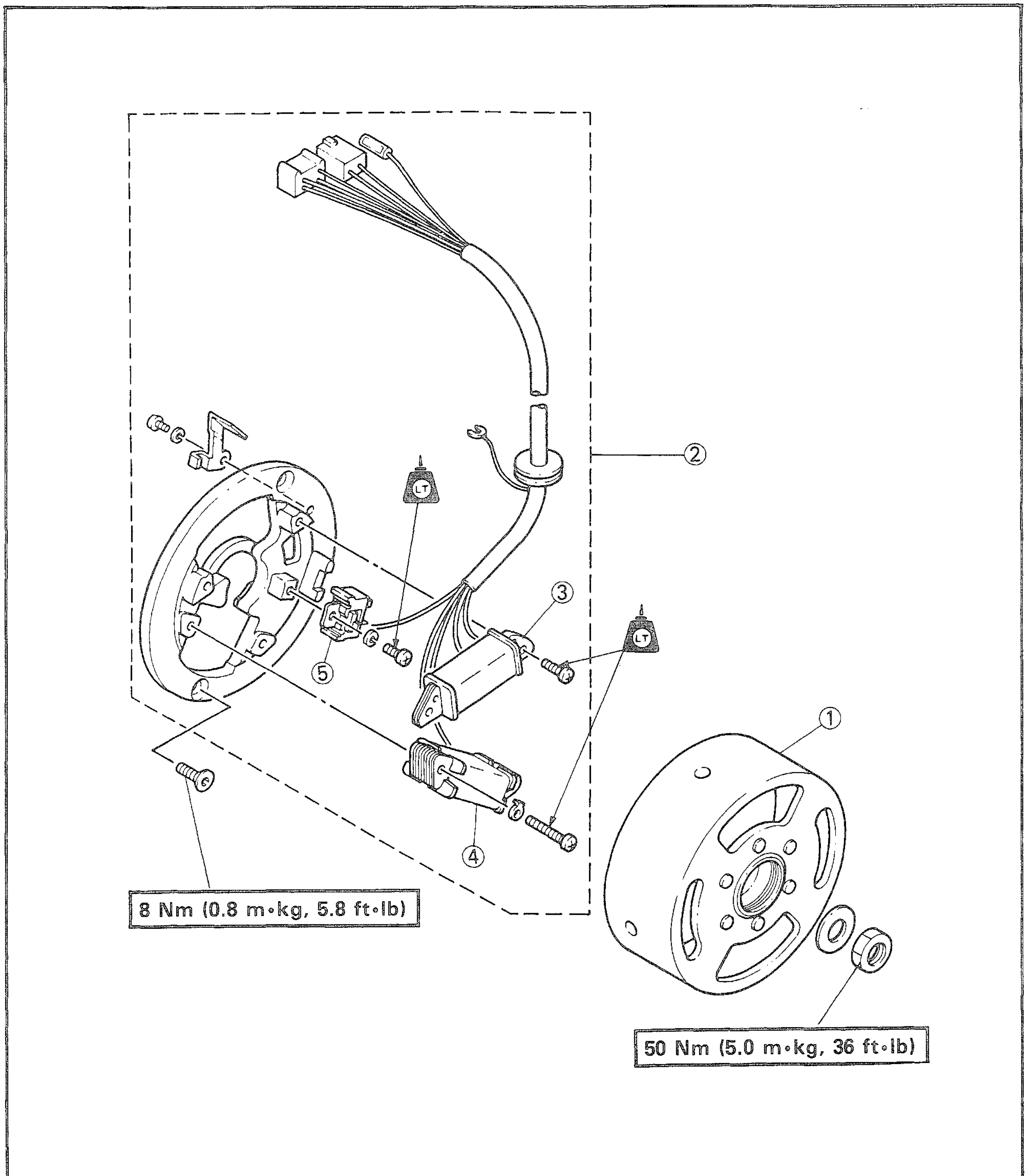
3. Tighten:
   - Nut ① (Rotor)
     Use the Universal Rotor Holder ② to hold the rotor.

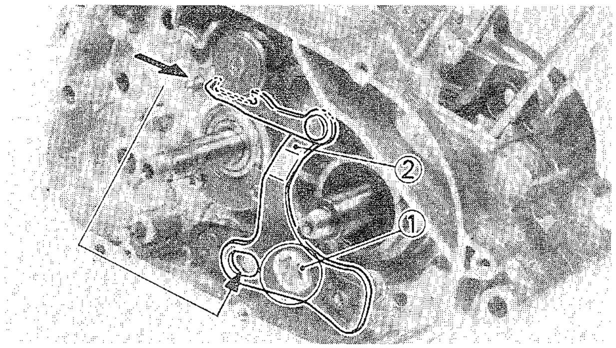
Universal Rotor Holder: YU-01235

Nut (Rotor): 50 Nm (5.0 m•kg, 36 ft•lb)

CDI MAGNETO

① Rotor
② Stator assembly
③ Charge coil
④ Lighting coil
⑤ Pickup coil



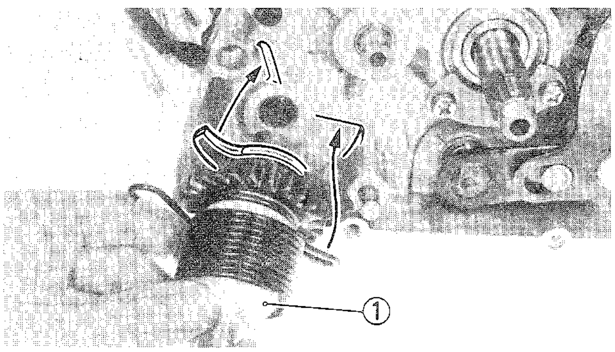


SHIFT SHAFT

1. Install:
   - Shift shaft
   - Circlip (New) ①
2. Install:
   - Shift lever ②

NOTE:

Be sure the shift lever ② correctly engages the shift cam and shift shaft.

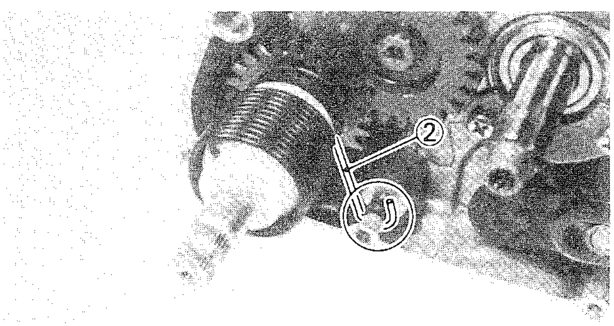


KICK AXLE

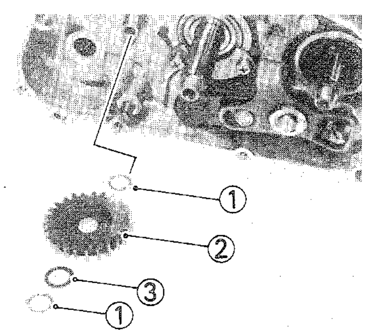
1. Install:
   - Kick axle assembly ①

NOTE:

- Make sure that the kick stopper is stopped at the projection of the crankcase.
- Make sure that the kick clip is engaged with the crankcase hole.



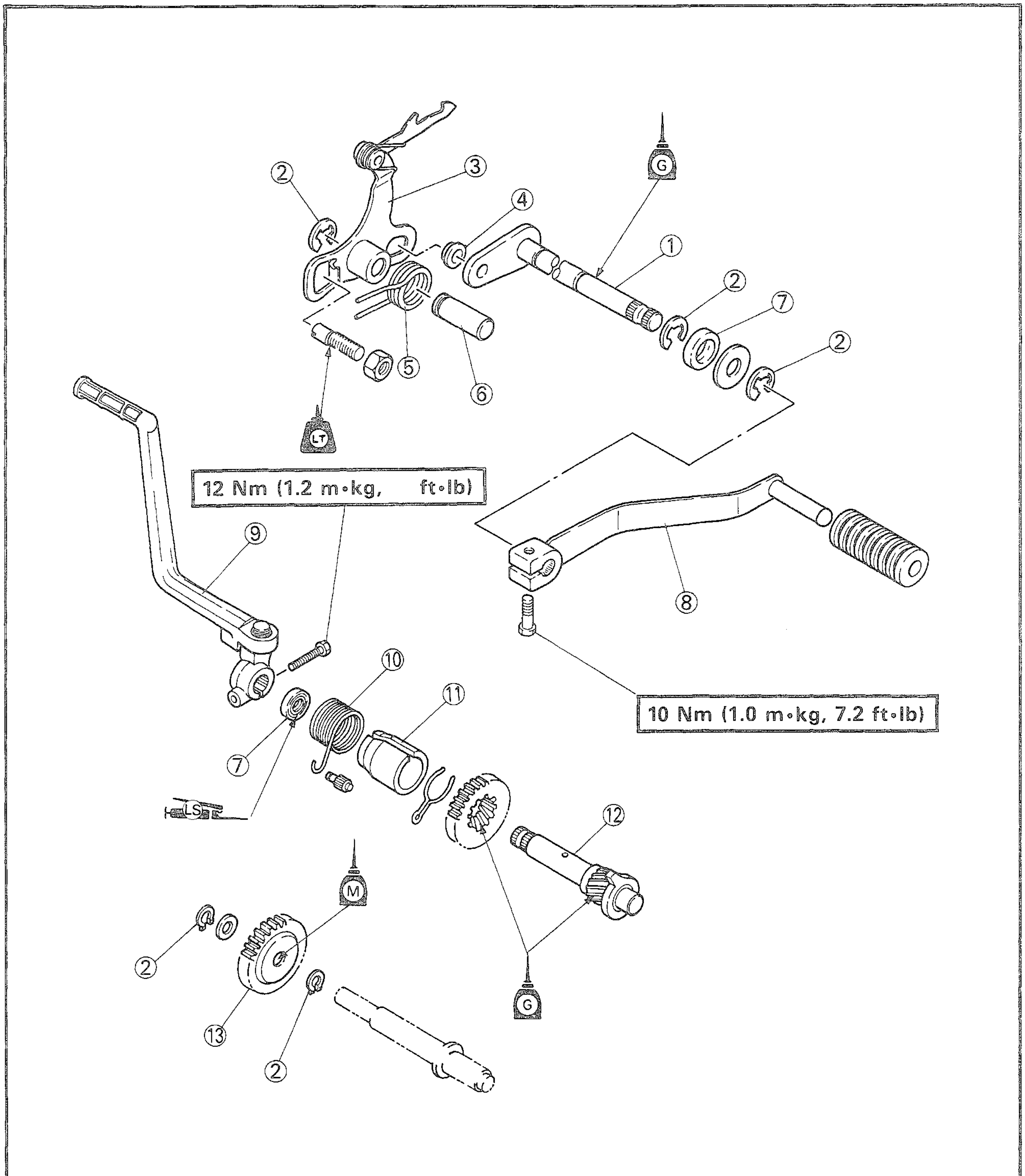
2. Hook the kick spring ②.

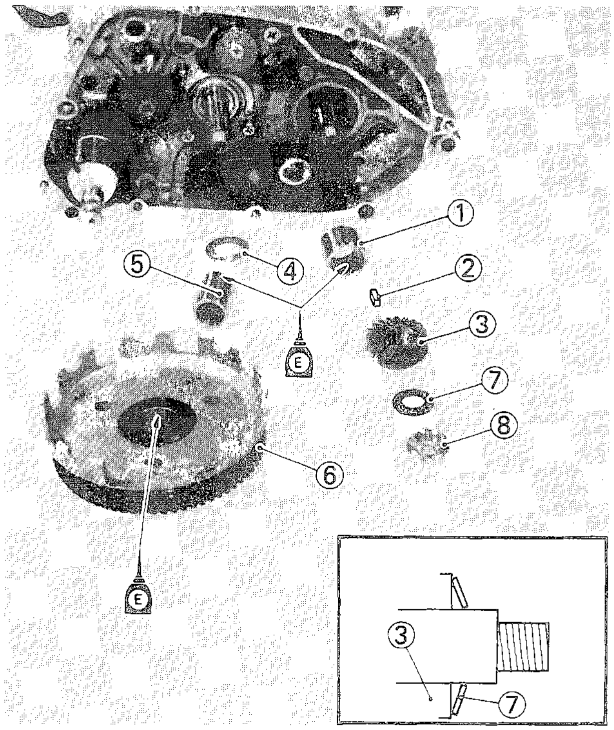


3. Install:
   - Circlips ①
   - Kick idle gear ②
   - Washers ③

SHIFT SHAFT AND KICK AXLE

① Shift shaft
② Circlip
③ Shift lever
④ Rotor
⑤ Return spring
⑥ Pin
⑦ Oil seal
⑧ Change pedal
⑨ Kick crank
⑩ Return spring
⑪ Collar
⑫ Kick axle
⑬ Kick idle gear

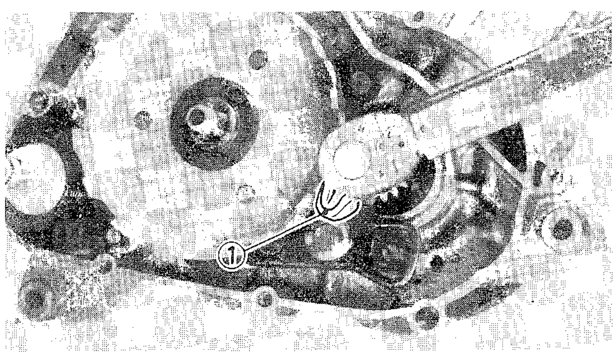




CLUTCH AND PRIMARY DRIVE GEAR

1. Install:
   - Collar ①
   - Straight key ②
   - Primary drive gear ③
   - Thrust washer ④
   - Collar ⑤
   - Clutch housing ⑥
   - Conical spring washer ⑦
   - Nut ⑧

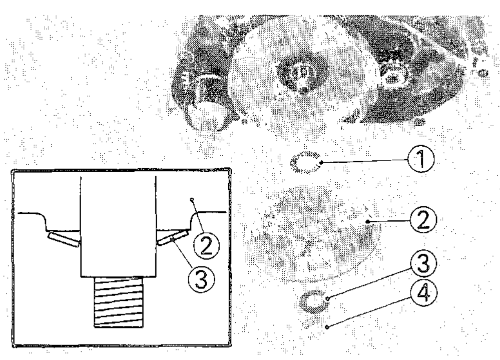
NOTE:
- Be sure to install the conical spring washer ⑦ as shown.
- Apply the transmission oil onto the collars.



2. Tighten:
   - Nut (Primary drive gear)

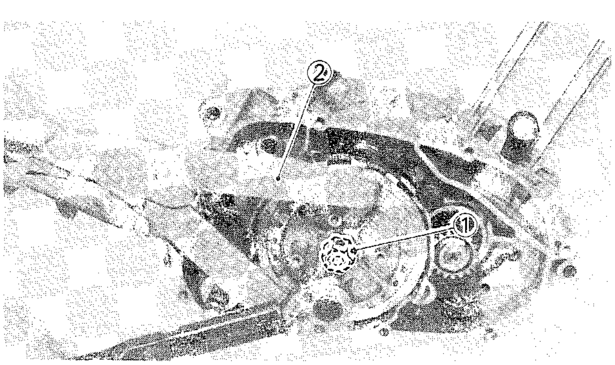
NOTE:
Place a folded rag ① between the teeth of the primary drive gear and driven gear.

Nut (Primary Drive Gear):
60 Nm (6.0 m•kg, 43 ft•lb)



3. Install:
   - Thrust washer ①
   - Clutch boss ②
   - Conical spring washer ③
   - Nut (Clutch boss) ④

NOTE:
Be sure to install the conical spring washer ③ as shown.

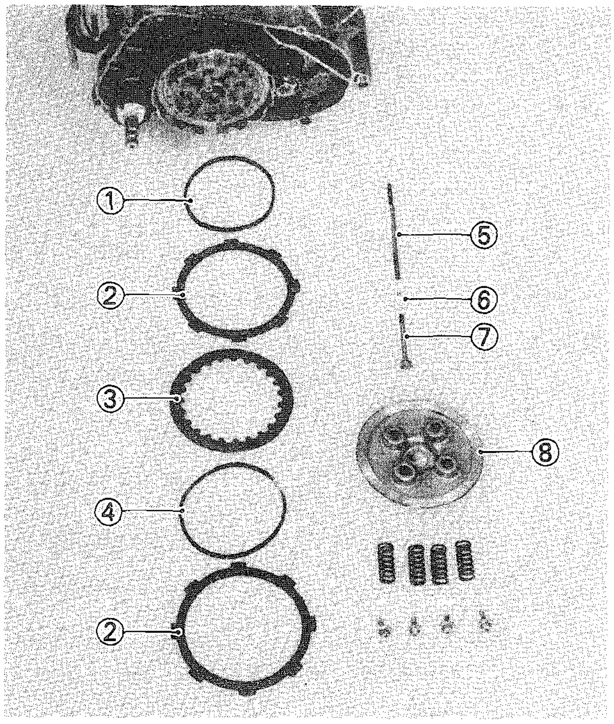


4. Tighten:
   - Nut (Clutch boss) ①

   Use the Universal Clutch Holder ② to hold clutch boss.

Universal Clutch Holder:
YM-91042

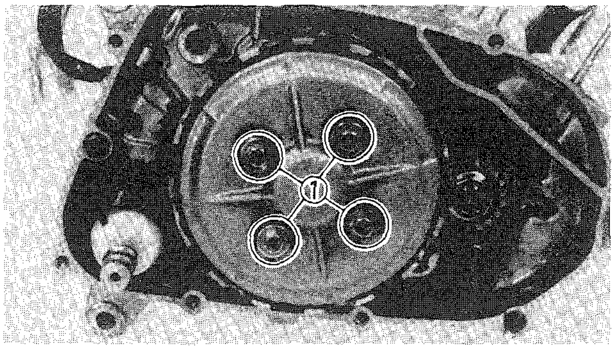
Nut (Clutch Boss):
45 Nm (4.5 m•kg, 33 ft•lb)



5. Install:
   - Clutch damper ①
   - Friction plate ②
   - Clutch plate ③
   - Cushion spring ④
   - Push rod #2 ⑤
   - Ball ⑥
   - Push rod #1 ⑦
   - Pressure plate ⑧

NOTE:

Install the clutch damper and friction plate alternately on the clutch boss, starting with a clutch damper, and install the clutch plate between first friction plate and second clutch damper.

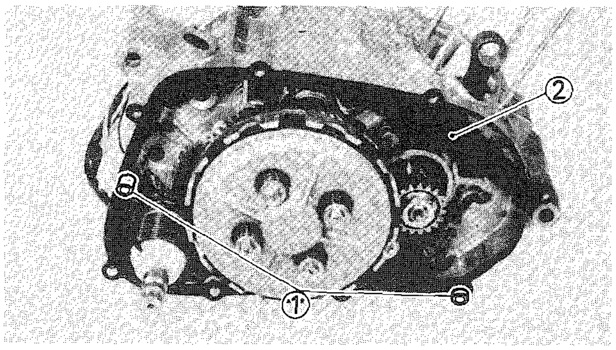


6. Install:
   - Springs (Pressure plate)
   - Bolts (Pressure plate ①

NOTE:

Tighten the bolts in stages, using a crisscross pattern.

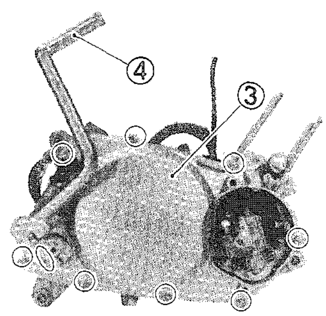
Bolts (Pressure Plate):
6 Nm (0.6 m•kg, 4.3 ft•lb)



7. Install:
   - Dowel pins ①
   - Gasket (Crankcase cover-New) ②
   - Crankcase cover ③
   - Kick crank ④

NOTE:

Tighten the screws in stages, using a crisscross pattern.

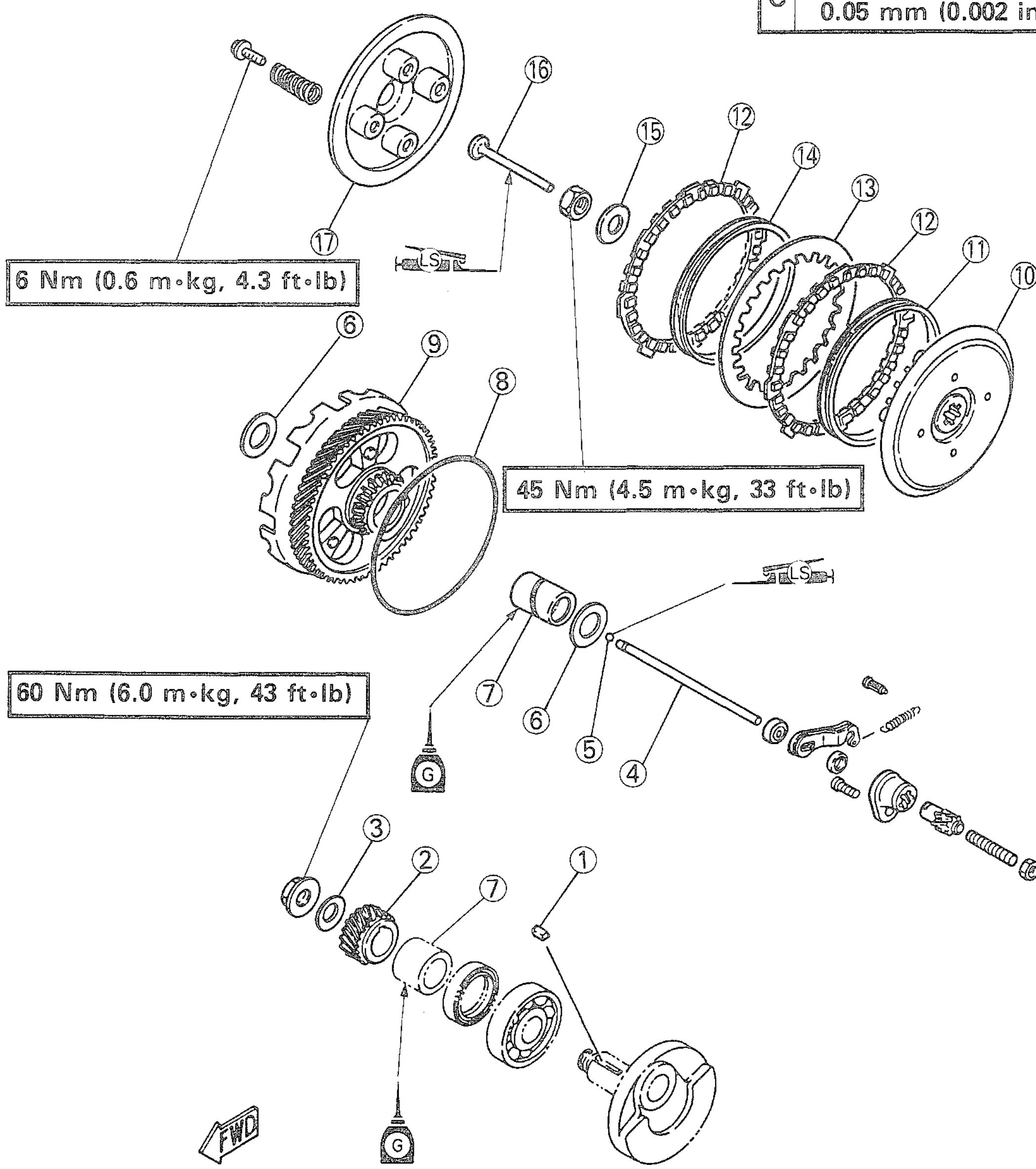


Screws (Crankcase Cover-Right):
10 Nm (1.0 m•kg, 7.2 ft•lb)
Bolt (Kick Crank):
20 Nm (2.0 m•kg, 14 ft•lb)

CLUTCH AND PRIMARY DRIVE GEAR

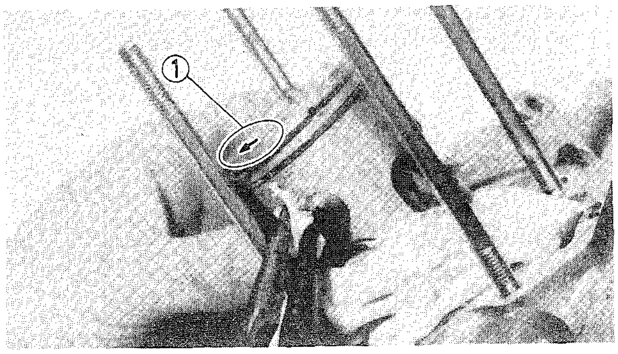
① Straight key
② Primary drive gear
③ Conical spring washer
④ Push rod #2
⑤ Ball
⑥ Thrust washer
⑦ Collar
⑧ O-ring
⑨ Clutch housing
⑩ Clutch boss
⑪ Clutch damper
⑫ Friction plate
⑬ Clutch plate
⑭ Cushion spring
⑮ Conical spring washer
⑯ Push rod #1
⑰ Pressure plate

A	CLUTCH SPRING FREE: LENGTH LIMIT: 26.2 mm (1.03 in)
B	FRICTION PLATE WEAR LIMIT: 2.7 mm (0.106 in)
C	CLUTCH PLATE WARP LIMIT: 0.05 mm (0.002 in)



CYLINDER HEAD, CYLINDER AND PISTON

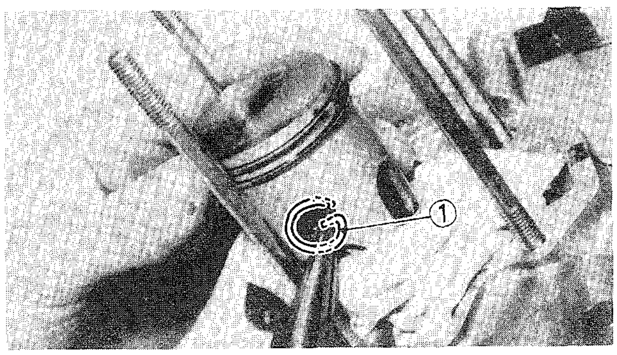
1. Apply:
   - Engine oil
   To the small end bearing and big end bearing.



2. Install:
   - Small end bearing
   - Piston
   - Piston pin

NOTE:

The arrow ① on the piston must point to the front of the engine.



3. Install:
   - Piston pin clip ①

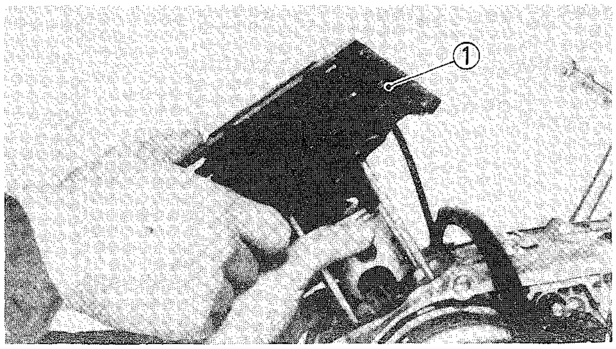
NOTE:

Before installing the piston pin clip, cover the crankcase with a clean towel or rag so you will not accidentally drop the pin clip and material into the crankcase.

WARNING:

Always use a new piston pin clip.

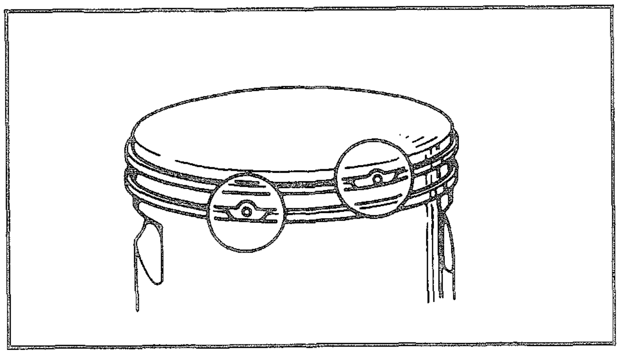
4. Install:
   - Gaskets (Cylinder-New)

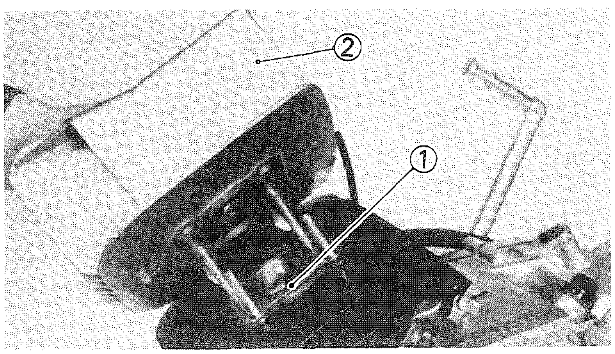


5. Install:
   - Cylinder ①

NOTE:
Install the cylinder with one hand while compressing the piston rings with the other hand.

CAUTION:
Before installing the cylinder, make sure ring's ends are properly fitted around the ring locating pins in the grooves.





6. Install:
   - Gasket (Cylinder head-New) ①
   - Cylinder head ②
   - Reed valve
   - Gasket
   - Intake manifold
   - Oil delivery hose

NOTE:
Tighten the nuts in stages, using a crisscross pattern.

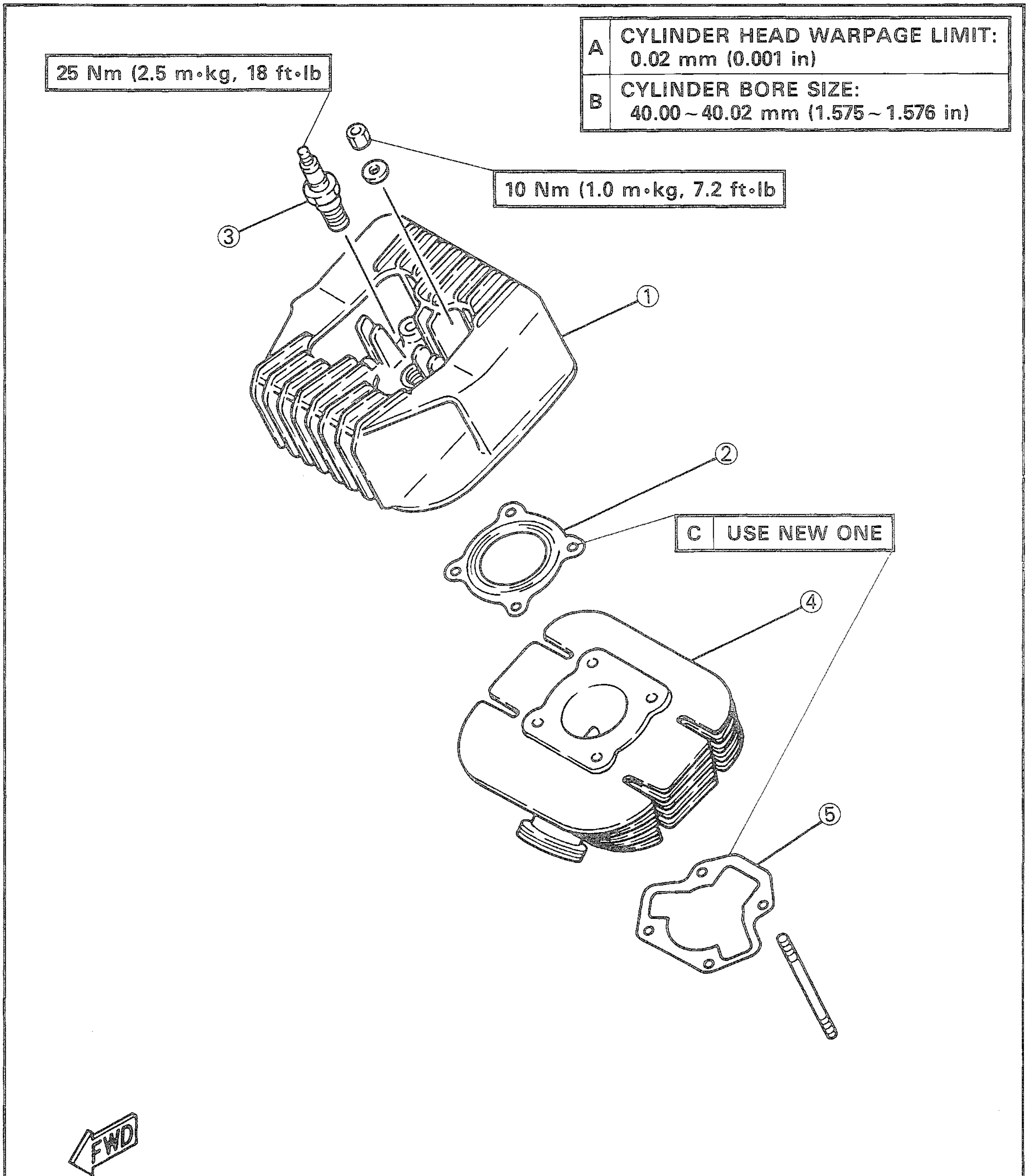
	Nuts (Cylinder Head): 10 Nm (1.0 m•kg, 7.2 ft•lb)

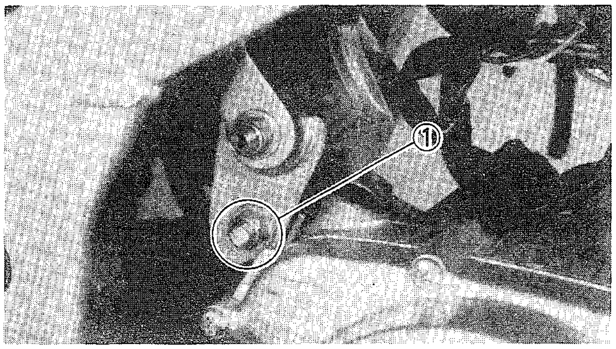
7. Install:
   - Spark plug

	Spark Plug: 25 Nm (2.5 m•kg, 18 ft•lb)

CYLINDER AND CYLINDER HEAD

① Cylinder head
② Gasket (Cylinder head)
③ Spark plug
④ Cylinder
⑤ Gasket (Cylinder)

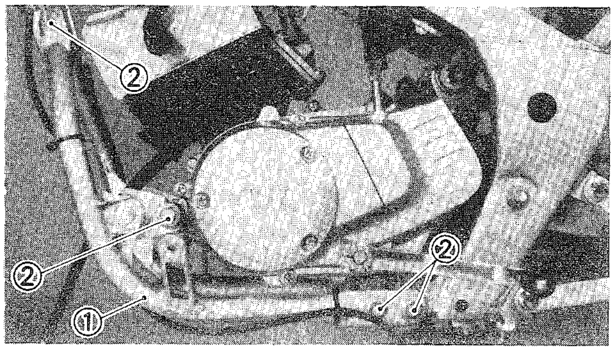




REMOUNTING ENGINE

Reverse the engine removal procedure.
Note the following points.

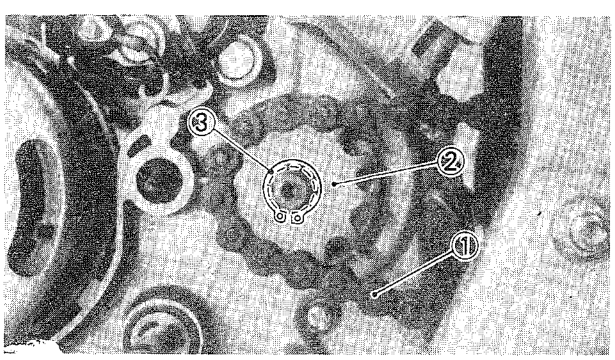
1. Install:
   - Engine assembly
   - Bolt (Rear — Upper) ①



2. Install:
   - Down tube ①
   - Bolts (Down tube) ②

3. Tighten:
   - Nuts
   - Bolts

Bolts (Down Tube — Front):
25 Nm (2.5 m•kg, 18 ft•lb)
Bolts (Down Tube — Rear):
25 Nm (2.5 m•kg, 18 ft•lb)
Nut (Engine — Front):
40 Nm (4.0 m•kg, 29 ft•lb)
Nut (Engine — Rear):
25 Nm (2.5 m•kg, 18 ft•lb)

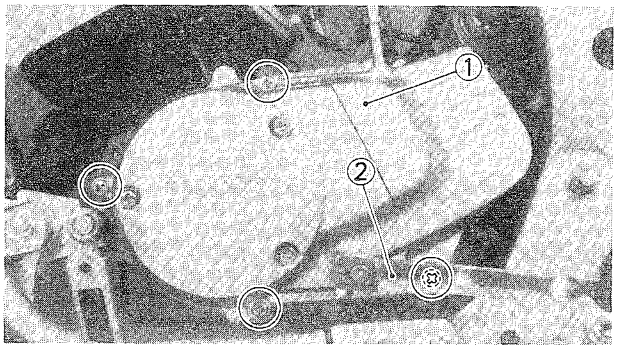


4. Install:
   - Drive chain ①
   - Drive sprocket ②
   - Circlip (New) ③

NOTE:
Before installing the drive sprocket, loosen the rear wheel axle and push forward the rear wheel.

WARNING:

Use a new circlip.



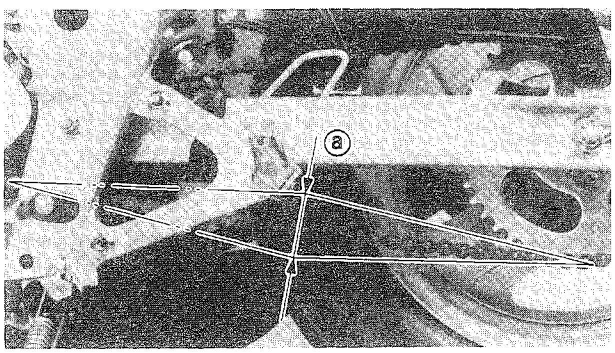
5. Install:
   - Gasket (Crankcase cover — New)
   - Crankcase cover ①
   - Change pedal ②

NOTE:

Tighten the screws in stages, using a crisscross pattern.

6. Adjust:
   - Autolube pump cable:
     Refer to "CHAPTER 3—AUTOLUBE PUMP CABLE" section.
7. Install:
   - Muffler

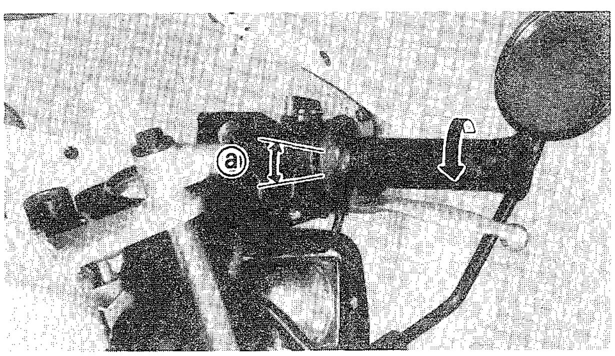
Ring Nut (Muffler):
6 Nm (0.6 m•kg, 4.2 ft•lb)
Bolt (Muffler):
18 Nm (1.8 m•kg, 13 ft•lb)



8. Adjust:
   - Drive chain slack ⓐ

Drive Chain Slack:
25 ~ 30 mm (1.0 ~ 1.2 in)

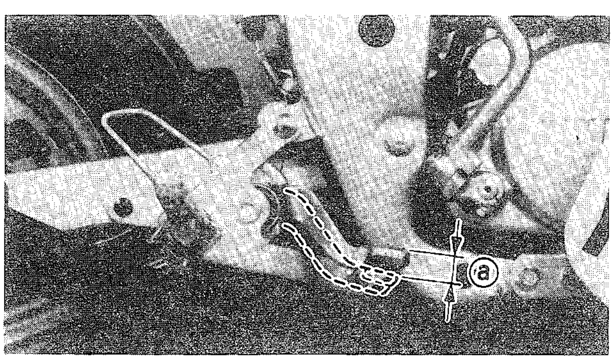
Refer to "CHAPTER 3—DRIVE CHAIN SLACK ADJUSTMENT" section.



9. Adjust:
   - Throttle cable free play ⓐ

Throttle Cable Free Play:
3 ~ 7 mm (0.12 ~ 0.28 in)

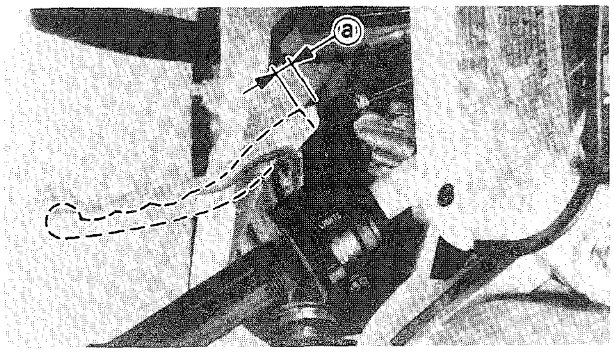
Refer to "CHAPTER 3—THROTTLE CABLE ADJUSTMENT" section.



10. Adjust:
    - Brake pedal free play ⓐ

Brake Pedal Free Play:
20 ~ 30 mm (0.8 ~ 1.2 in)

Refer to "CHAPTER 3—REAR BRAKE ADJUSTMENT" section.



11. Adjust:
   - Clutch cable free play

Clutch Cable Free Play:
2~3 mm (0.08~0.12 in)

Refer to "CHAPTER 3—CLUTCH ADJUSTMENT" section.

12. Fill:
   - Transmission oil

Total Amount:
0.65 L (0.57 Imp qt, 0.69 US qt)

Refer to "CHAPTER 3—TRANSMISSION OIL REPLACEMENT" section.

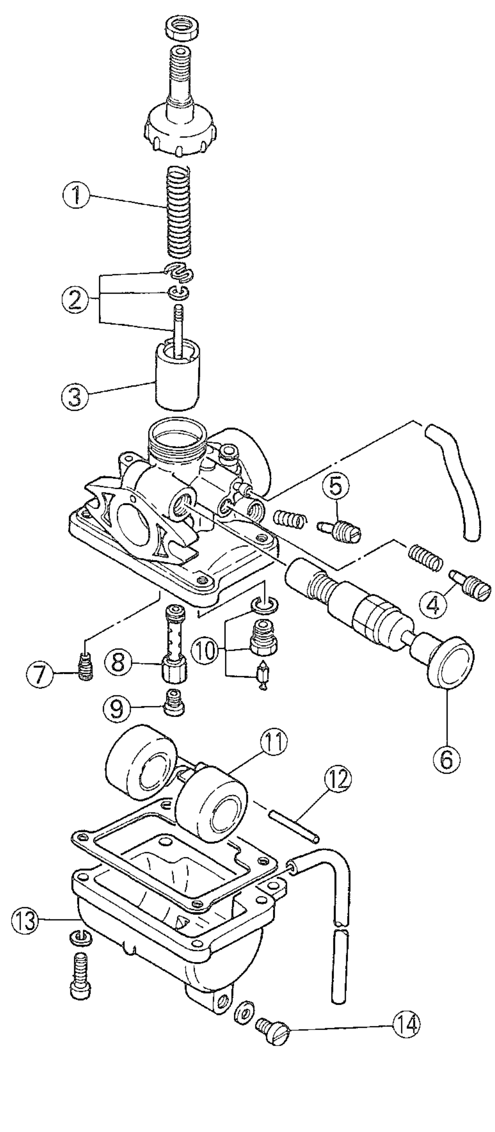
13. Air bleed:
   - Autolube pump
   Refer to "CHAPTER 3—AUTOLUBE PUMP AIR BLEEDING" section.

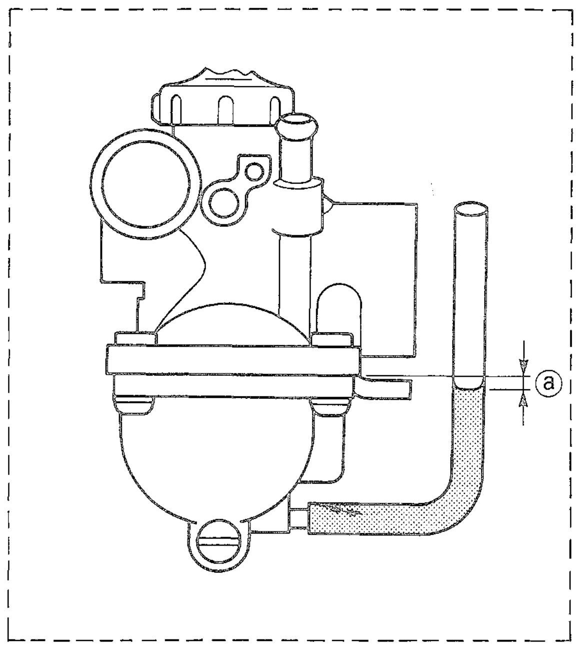
CARBURETION

CARBURETOR

① Spring (Throttle valve)
② Jet needle assembly
③ Throttle valve
④ Throttle stop screw
⑤ Pilot screw
⑥ Starter plunger
⑦ Pilot jet
⑧ Main nozzle
⑨ Main jet
⑩ Valve seat assembly
⑪ Float
⑫ Pin (Float)
⑬ Float chamber
⑭ Drain screw

SPECIFICATIONS	
Main jet	#120
Pilot jet	#17.5
Jet needle	3G21-4
Needle jet	E-0
Throttle valve cut-away	2.0
Pilot screw	1-1/8
Valve seat size	1.5
Starter jet	#20
Float height	21 ~ 23 mm (0.83 ~ 0.91 in)
Fuel level ⓐ	0 ~ 1 mm (0 ~ 0.04 in)

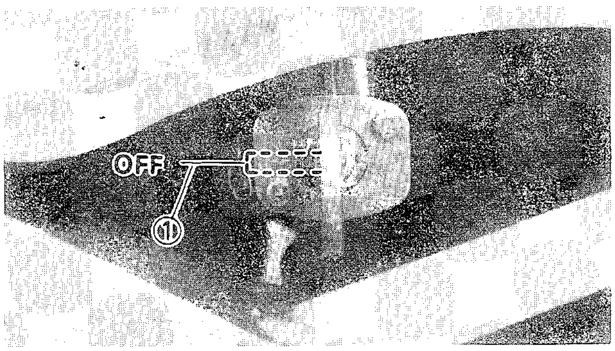




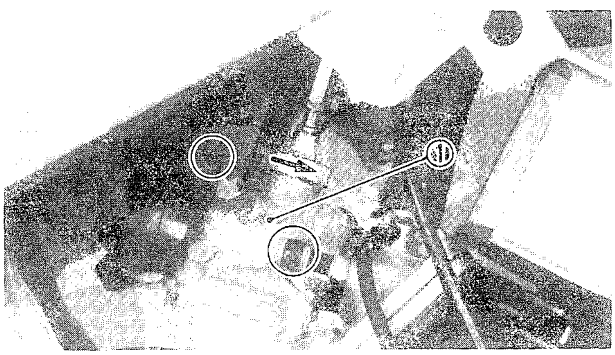
REMOVAL

NOTE:

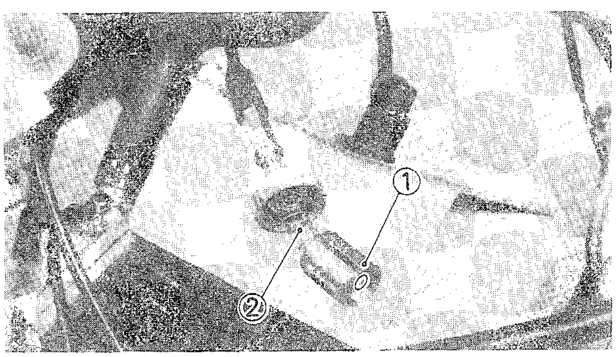
The following parts can be cleaned and inspected without carburetor disassembly.
- Starter plunger
- Pilot screw



1. Remove:
   - Lower cowling
     Refer to "CHAPTER 3–COWLINGS" section.
2. Turn the fuel cock to "OFF" position and disconnect the fuel hose ①.

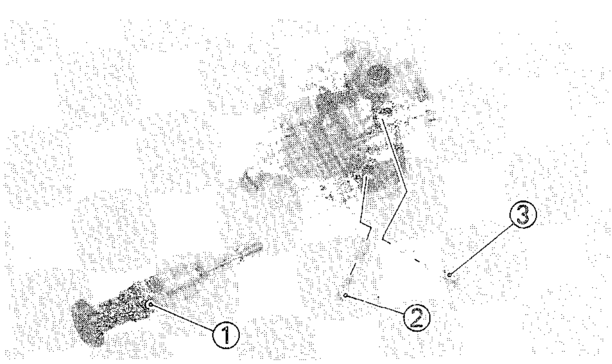


3. Loosen:
   - Screws (Carburetor joint)
4. Remove:
   - Carburetor assembly ①

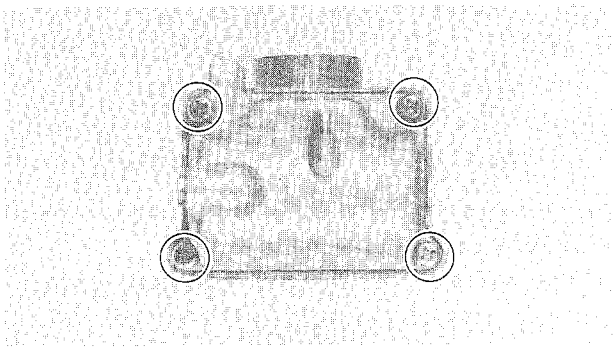


DISASSEMBLY

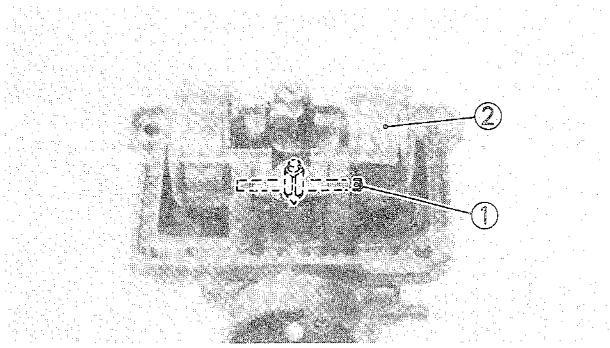
1. Remove:
   - Throttle valve assembly ①
   - Spring (Throttle valve) ②



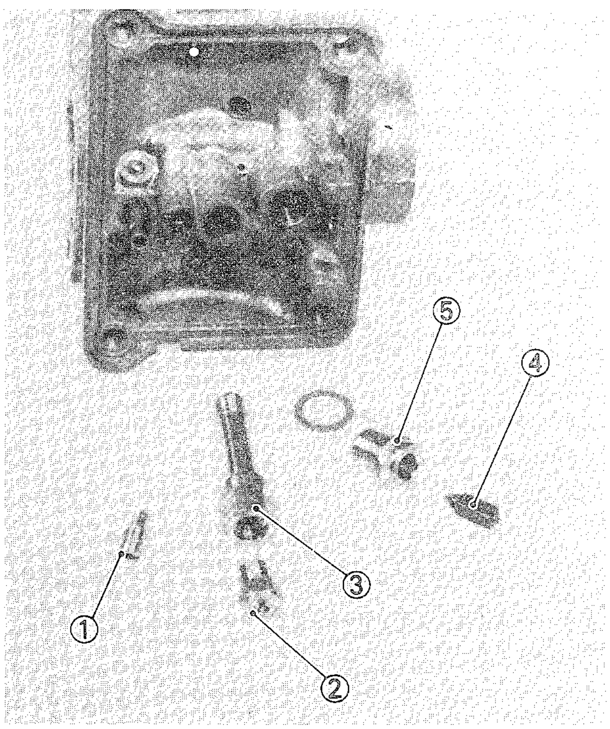
2. Remove:
   - Starter plunger ①
   - Throttle stop screw ②
   - Pilot screw ③



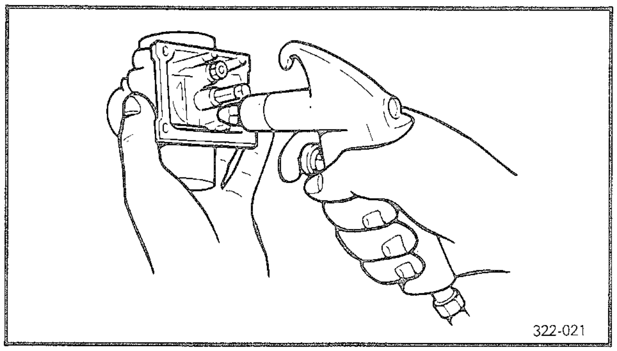
3. Remove:
   - Float chamber



4. Remove:
   - Pin (Float) ①
   - Float ②



5. Remove:
   - Pilot jet ①
   - Main jet ②
   - Main nozzle ③
   - Needle valve ④
   - Valve seat ⑤

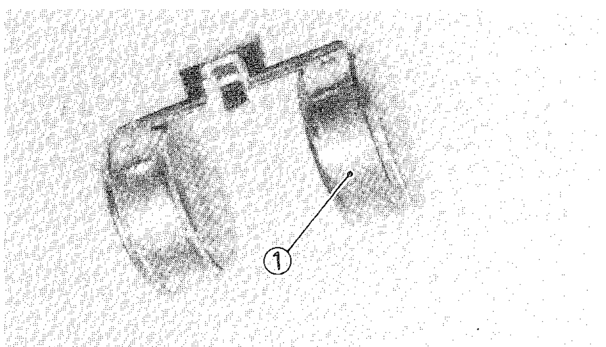


INSPECTION

1. Inspect:
   - Carburetor body
   - Fuel passage

   Contamination→Clean as indicated.

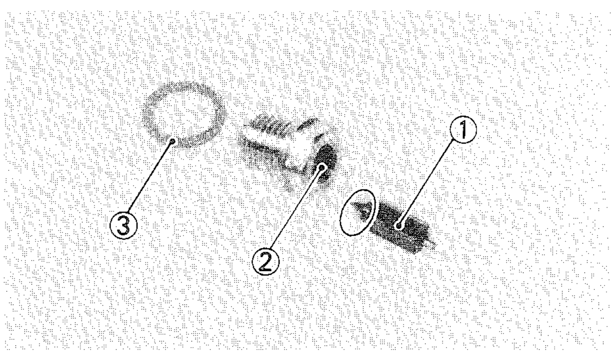
Carburetor cleaning steps:
- Wash carburetor in petroleum based solvent. (Do not use any caustic carburetor cleaning solution).
- Blow out all passages and jets with compressed air.



2. Inspect:
   - Float ①

   Damage→Replace.
   - Gasket
   - O-ring

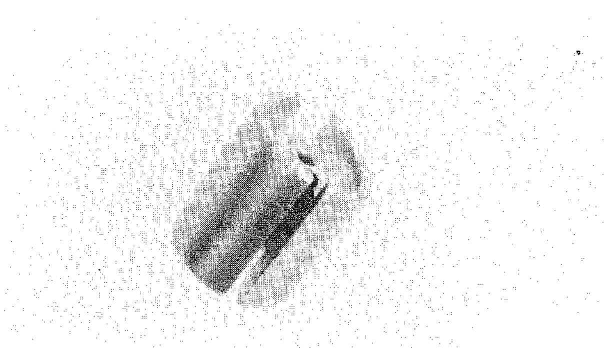
   Damage→Replace.



3. Inspect:
   - Needle valve ①
   - Valve seat ②
   - Gasket ③

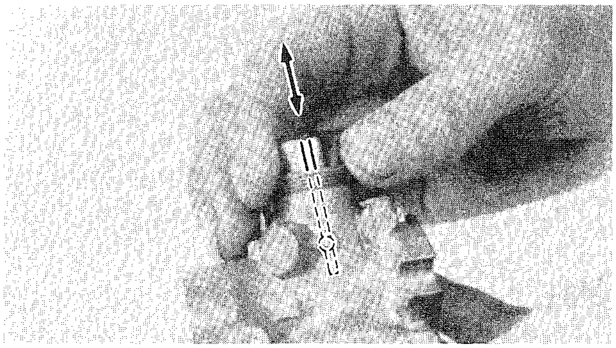
   Damage/Wear/Contamination→Replace.

NOTE:
Always replace the needle valve and valve seat as a set.

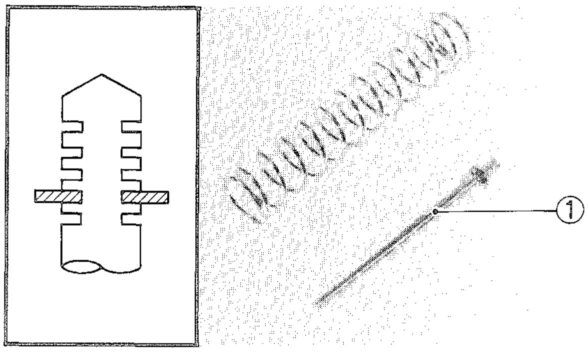


4. Inspect:
   - Throttle valve

   Wear/Damage→Replace.

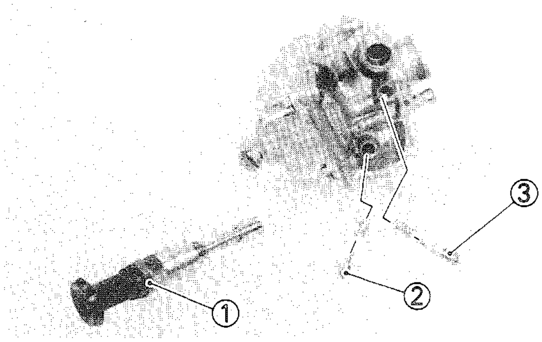


5. Check:
   - Free movement
     Stick→Replace.
     Insert the throttle valve into the carburetor body, and check for free movement.



6. Inspect:
   - Jet needle ①
     Bends/Wear→Replace.
   - Clip position

Standard Clip Position:
No. 4 Groove



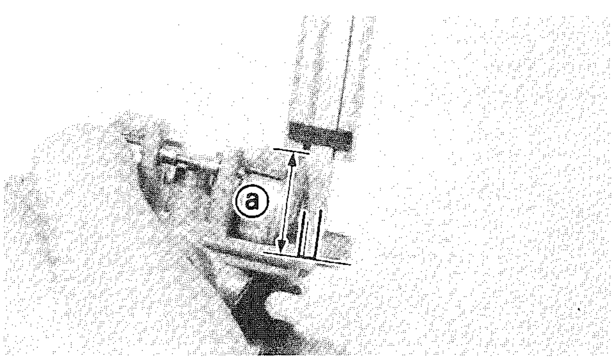
7. Inspect:
   - Starter plunger ①
     Wear/Damage→Replace.
   - Throttle stop screw ②
   - Pilot screw ③
     Wear/Damage→Replace.

ASSEMBLY

Reverse the disassemby procedure.
Note the following points.

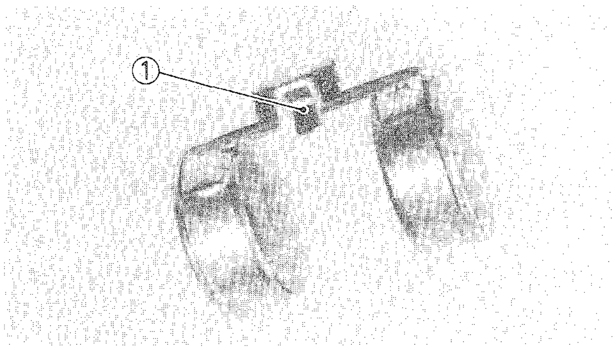
CAUTION:

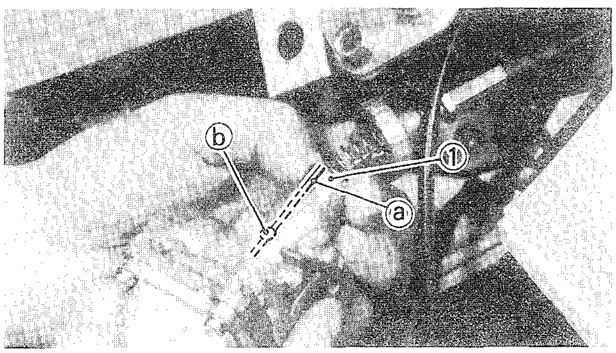
Before reassembling, wash all parts in clean gasoline.



1. Measure:
   - Float height ⓐ
     Out of specification→Adjust.

Float Height ⓐ:
21 ~ 23 mm (0.83 ~ 0.91 in)





Float height measurement and adjustment steps:

- Hold the carburetor in an upside down position.
- Measure the distance between the mating surface of the float chamber and top of the float using a gauge.

NOTE:

The float arm should be resting on the needle valve, but not compressing the needle valve.

- If the float height is not within specification, inspect the valve seat and needle valve.
- If either is worn, replace them both.
- If both are fine, adjust the float height by bending the float tang ① on the float.
- Recheck the float height.

INSTALLATION

Reverse the removal procedures.
Note the following points.

1. Install:
   - Throttle valve assembly ①
     To carburetor body.

NOTE:

Align the groove ⓐ of the throttle valve with the projection ⓑ of the carburetor body.

2. Adjust:
   - Idle speed
     Refer to the "CHAPTER 3—IDLE SPEED ADJUSTMENT" section.

Engine Idle Speed:
1,300 ~ 1,400 r/min

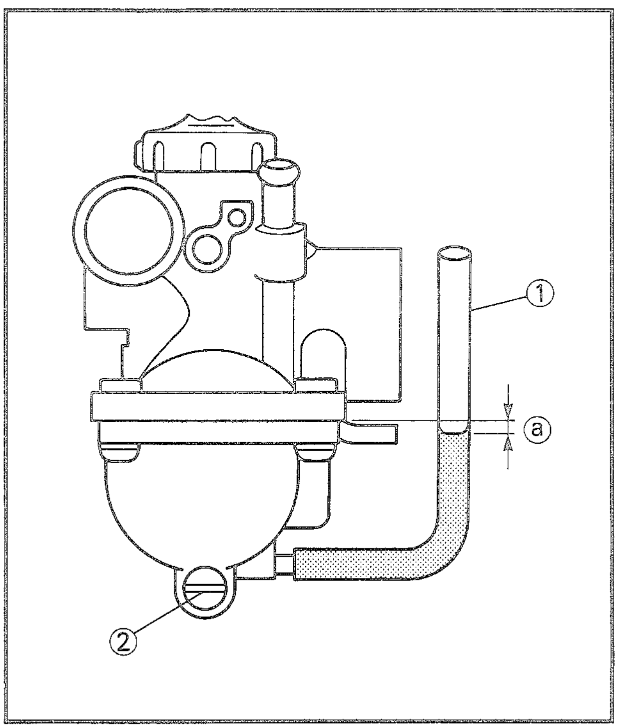
3. Adjust:
   - Throttle cable free play
   Refer to the "CHAPTER 3—THROTTLE CABLE FREE PLAY ADJUSTMENT" section.

Throttle Cable Free Play:
3～7 mm (0.12～0.28 in)

ADJUSTMENT
Fuel Level Adjustment

NOTE:
Before adjusting the fuel level, the float height should be adjusted.

1. Place the motorcycle on a level place.
2. Use a garage jack under the engine to ensure that the carburetor is positioned vertically.
3. Attach the Fuel Level Gauge ① to the float chamber nozzle.

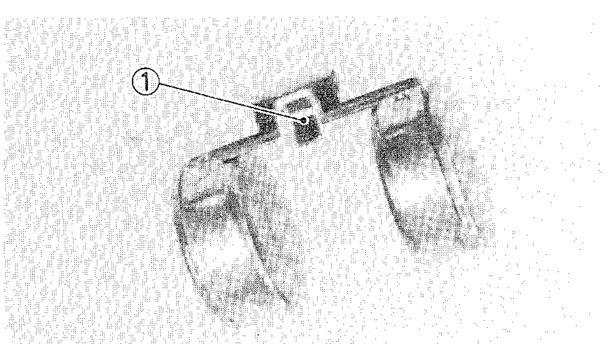


Fuel Level Gauge:
P/N YM-01312

4. Loosen the drain screw ②, and warm up the engine for several minutes.
5. Measure:
   - Fuel level ⓐ
   Out of specification→Adjust.

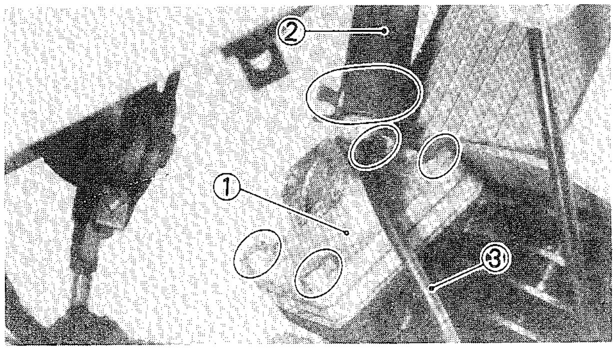
Fuel Level ⓐ:
Zero～1 mm (Zero～0.04 in)
Below the Carburetor Body Edge

6. Adjust:
   - Fuel level



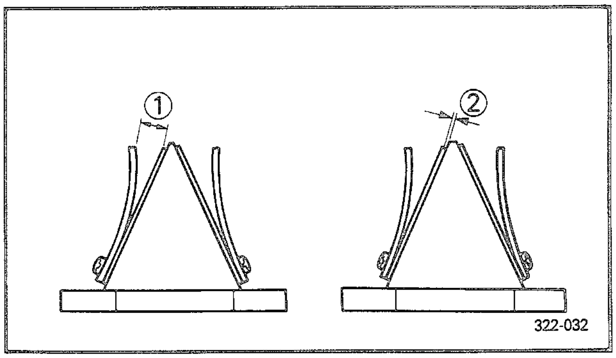
Adjustment steps:
- Remove the carburetor.
- Inspect the valve seat and needle valve.
- If either is worn, replace them both.
- If both are fine, adjust the float height by bending the float tang ① on the float.
- Recheck the fuel level.

REED VALVE



REMOVAL

1. Remove:
   - Carburetor assembly
   Refer to "CARBURETOR—REMOVAL" section.
2. Remove:
   - Carburetor joint ①
   - Y.E.I.S. hose ②
   - Oil hose ③
   - Reed valve



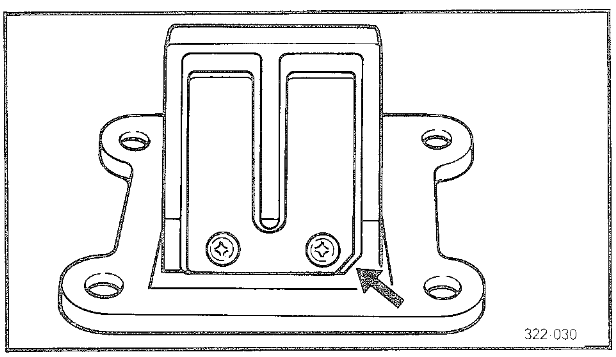
INSPECTION

1. Measure:
   - Valve stopper height ①
   Out of specification→Replace.

Valve Stopper Height:
6.7～7.3 mm (0.26～0.29 in)

2. Measure:
   - Reed valve bending ②
   Out of specification→Replace.

Reed Valve Bending Limit:
0.3 mm (0.012 in)



Replacement steps:
- Remove the screws (Reed valve)
- Install the reed valves (New)

NOTE:
Install the reed valves as shown.

- Tighten the screws (Reed valve).

CAUTION:
Tighten each screw gradually to avoid warping.

Screw (Reed Valve):
1 Nm (0.1 m•kg, 0.7 ft•lb)

- Recheck reed valve bending.

INSTALLATION

Reverse the removal procedure.
Note following points.

1. Tighten:
   - Carburetor joint

	Bolt (Carburetor Joint): **8 Nm (0.8 m•kg, 5.8 ft•lb)**

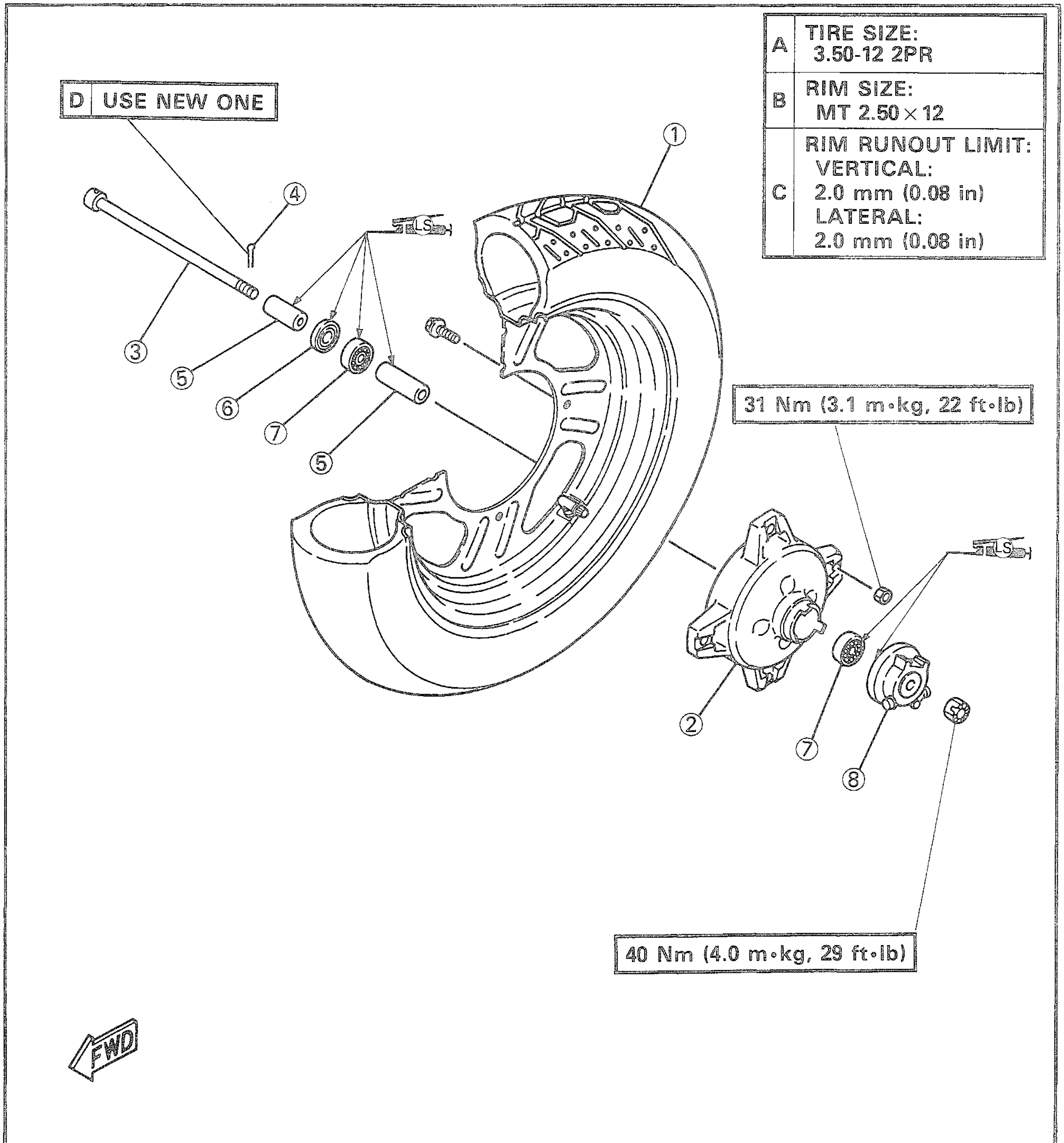
CHASSIS

FRONT WHEEL

① Front wheel
② Hub
③ Front wheel axle
④ Cotter pin
⑤ Collar
⑥ Oil seal
⑦ Bearing
⑧ Speedometer gear unit

BASIC WEIGHT: WITH OIL AND FULL FUEL TANK	91 kg (201 lb)	
MAXIMUM LOAD*	68 kg (150 lb)	
COLD TIRE PRESSURE:	FRONT	REAR
ZERO ~ MAXIMUM LOAD*	130 kPa (1.3 kg/cm², 18 psi)	150 kPa (1.5 kg/cm², 21 psi)

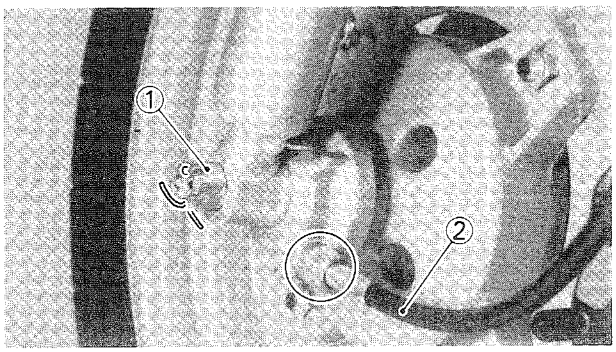
*Load is the total weight of cargo, rider, and accessories.



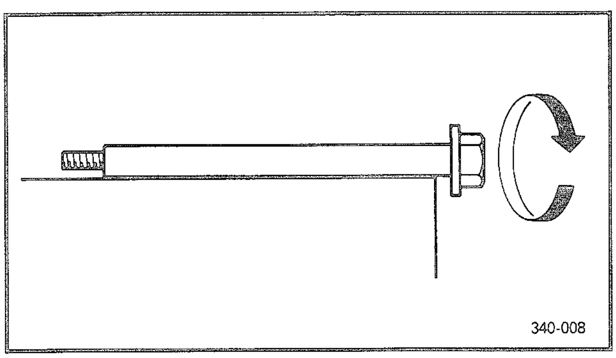
REMOVAL

WARNING:

Support the motorcycle securely so there is no danger of it falling over.



1. Remove:
   - Lower cowling
     Refer to "CHAPTER 3—COWLINGS" section.
2. Remove:
   - Cotter pin
3. Loosen:
   - Nut (Front wheel axle) ①
4. Elevate the front wheel by placing a suitable stand under the engine.
5. Disconnect:
   - Speedometer cable ②
6. Remove:
   - Front wheel
   - Speedometer gear unit
   - Collar
   - Front wheel axle



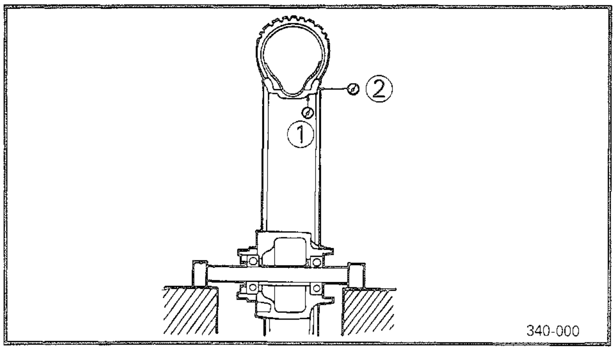
INSPECTION

1. Eliminate any corrosion from parts.
2. Inspect:
   - Front axle
     Roll the axle on a flat surface.
     Bends→Replace.

WARNING:

Do not attempt to straighten a bent axle.

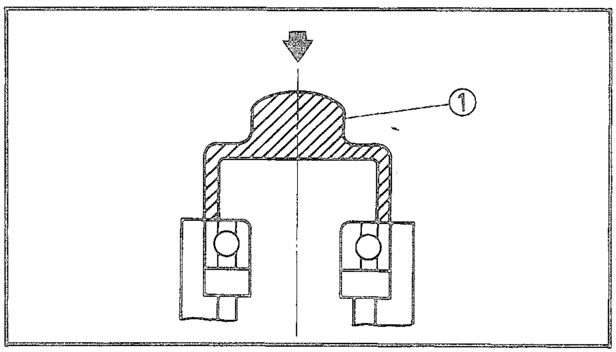
3. Inspect:
   - Wheel
     Cracks/Bends/Warpage→Replace.



4. Measure:
   - Wheel runout
     Out of specification→Check the wheel and bearing play.

Rim Runout Limit: **Radial ①: 2.0 mm (0.08 in)** **Lateral ②: 2.0 mm (0.08 in)**

5. Check:
   - Wheel bearings
     Bearings allow play in the wheel hub or wheel turns roughly→Replace.

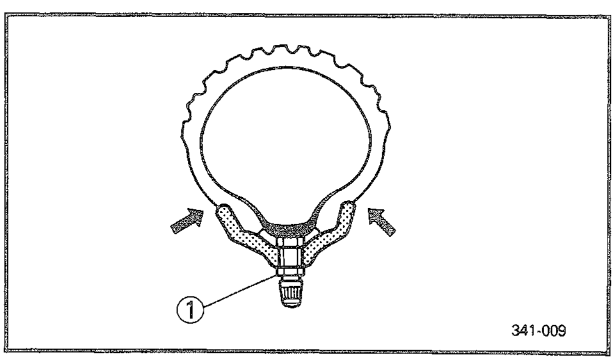


Wheel bearing replacement steps:
- Clean the out side of the wheel hub.
- Remove the bearing using a general bearing puller
- Install the new bearing.

NOTE:
Use a socket ① that matches the outside diameter of the race of the bearing.

CAUTION:
Do not strike the inner race of balls of the bearing. Contact should be made only with the outer race.

WARNING:
- **After mounting a tire, ride conservatively to allow proper tire to rim seating. Failure to do so may cause an accident resulting in motorcycle damage and possible operator injury.**
- **After a tire repair or replacement, be sure to torque tighten the valve stem locknut ① to specification.**



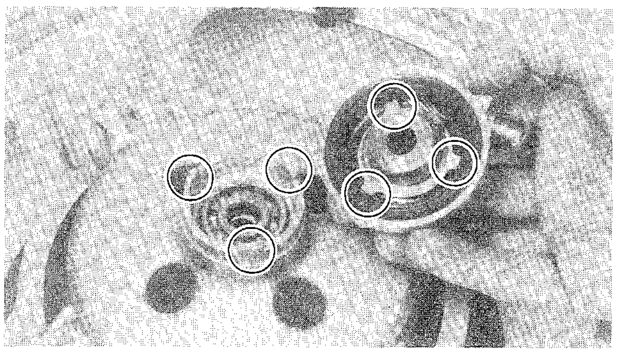
Valve-stem Locknut: **1.5 Nm (0.15 m•kg, 1.1 ft•lb)**

INSTALLATION

Reverse the removal procedure. Note the following points.

1. Apply:
   - Lithium base grease

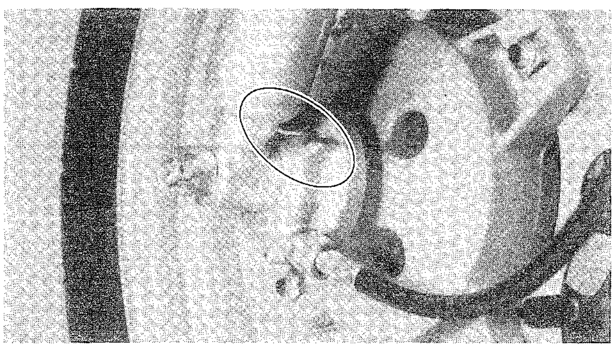
   Lightly grease to the oil seal and gear unit.



2. Install:
   - Speedometer gear unit
   - Collar

NOTE:

Make sure the projections inside the gear unit are meshed with the flats in the wheel hub.



3. Install:
   - Front wheel assembly

NOTE:

Be sure the boss on the outer fork tube correctly engages with the locating slot on the gear unit assembly.

4. Tighten:
   - Nut (Front wheel axle)

Nut (Front Wheel Axle):
40 Nm (4.0 m•kg, 29 ft•lb)

5. Install:
   - Cotter pin (New)

WARNING:

Always use a new cotter pin.

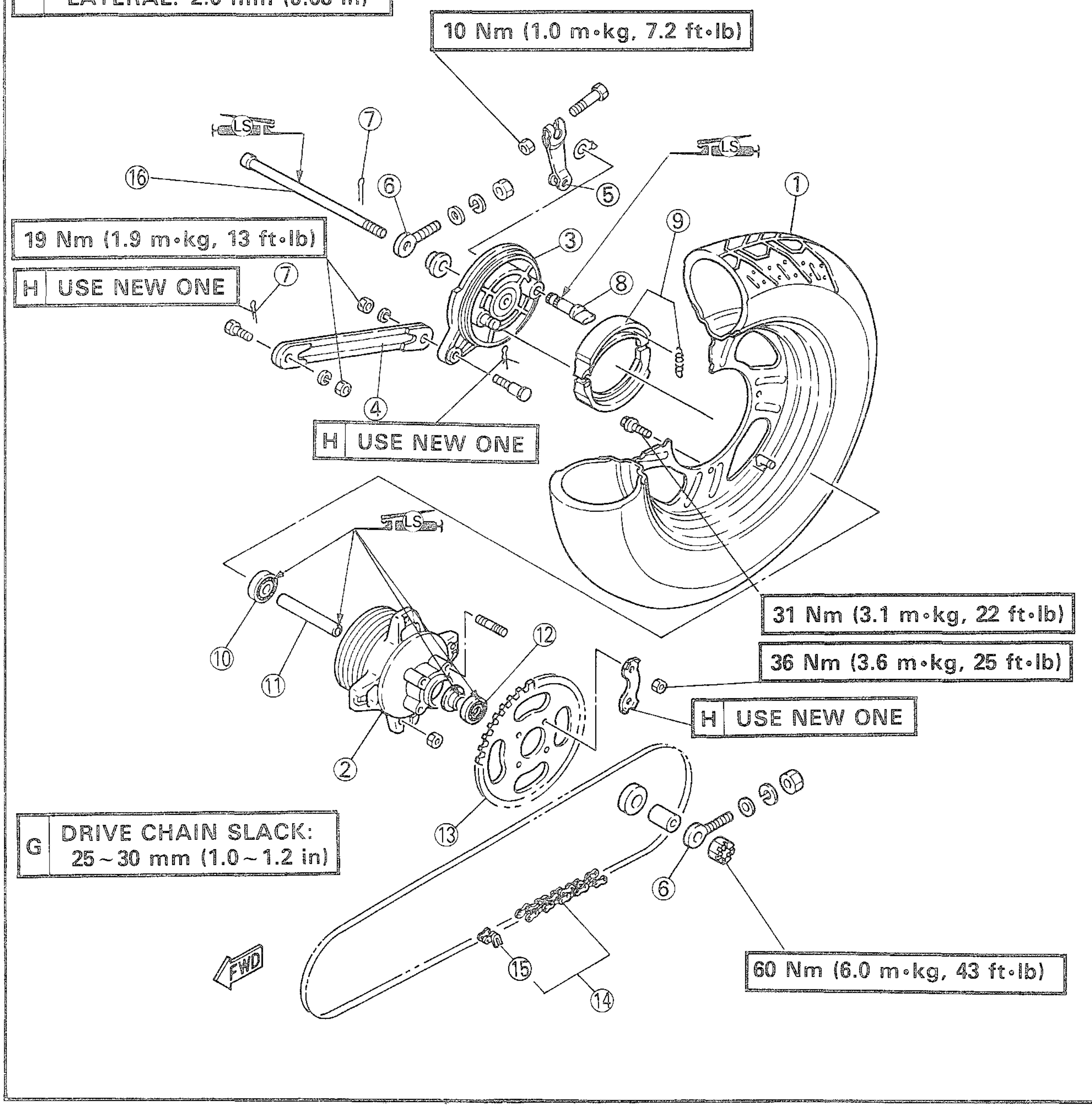
6. Bend the end of cotter pin.

REAR WHEEL

① Rear wheel
② Hub
③ Brake shoe plate
④ Tension bar
⑤ Brake cam lever
⑥ Drive chain puller
⑦ Cotter pin
⑧ Brake cam shaft
⑨ Brake shoes
⑩ Bearing
⑪ Collar
⑫ Bearing
⑬ Driven sprocket
⑭ Drive chain
⑮ Joint
⑯ Rear wheel axle

A	TIRE SIZE: 4.00-12-2PR
B	WHEEL SIZE: MT 2.50×12
C	WHEEL RUNOUT LIMIT: VERTICAL: 2.0 mm (0.08 in) LATERAL: 2.0 mm (0.08 in)

D	BRAKE SHOE LINING THICKNESS LIMIT: 2 mm (0.08 in)
E	BRAKE DRUM INSIDE DIAMETER LIMIT: 111 mm (4.37 in)
F	SHOE SPRING FREE LENGTH LIMIT: 50.5 mm (2.99 in)

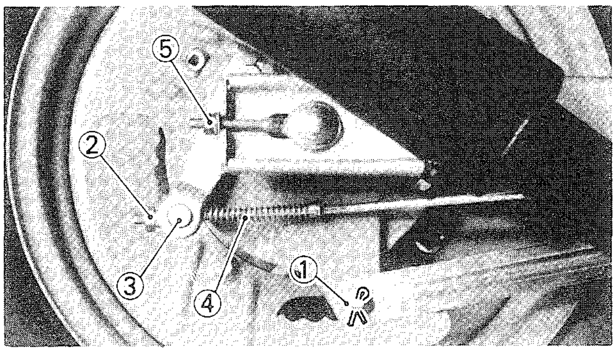


REMOVAL

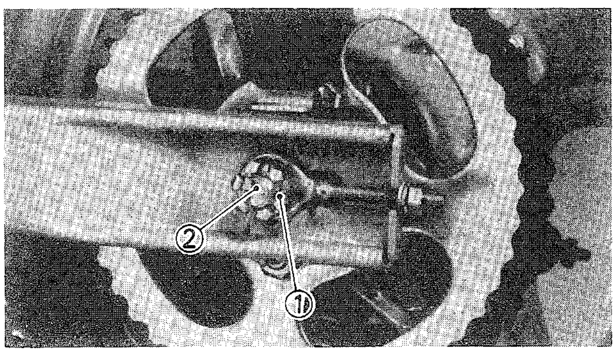
WARNING:

Support the motorcycle securely so there is no danger of it falling over.

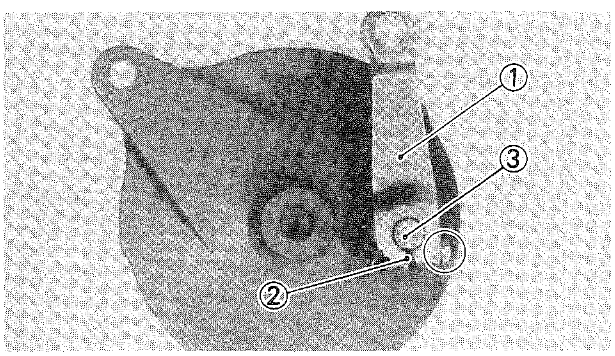
1. Remove:
   - Cotter pin (Tension bar)
   - Nut (Tension bar) ①
   - Adjuster (Rear brake) ②
   - Pin ③
   - Spring ④
   - Cotter pin (Rear axle)
2. Loosen:
   - Nut (Rear wheel axle)
   - Nuts (Chain puller) ⑤
3. Elevate the rear wheel by placing a suitable stand under the engine.
4. Push the wheel forward and remove the drive chain.



5. Remove:
   - Nut (Rear wheel axle) ①
   - Rear wheel axle ②
   - Rear wheel
   - Collars
   - Brake shoe plate



6. Remove:
   - Brake cam lever ①
   - Wear indicator ②
   - Brake shoes
   - Springs (Brake shoe)
   - Brake cam shaft ③



INSPECTION

1. Inspect:
   - Rear wheel axle

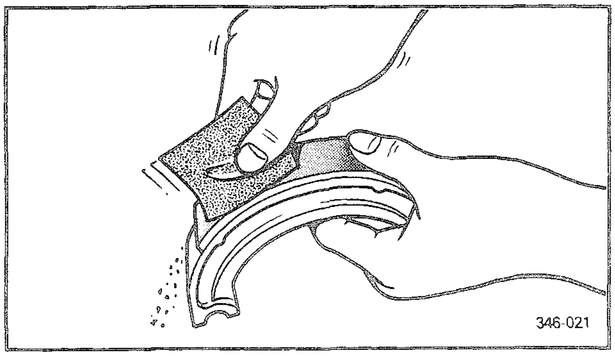
   Refer to "FRONT WHEEL—INSPECTION" section.

2. Inspect:
   - Wheel

   Refer to "FRONT WHEEL—INSPECTION" section.

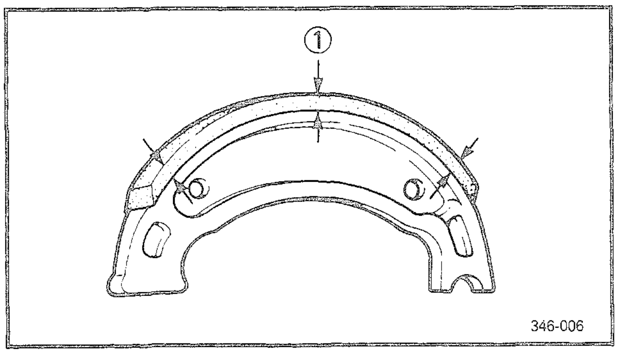
3. Measure:
   - Wheel runout
     Refer to "FRONT WHEEL—INSPECTION" section.

4. Check:
   - Wheel bearings
     Refer to "FRONT WHEEL—INSPECTION" section.


346-021

6. Inspect:
   - Brake lining surface
     Blazed areas→Remove.
     Use a coarse sand paper.

NOTE:
After using the sand paper, clean of the polished particles with cloth.



346-006

7. Measure:
   - Brake lining thickness
     Out of specification→Replace.

① Measuring points

Brake Lining Thickness:
4 mm (0.16 in)
Wear Limit:
2 mm (0.08 in)

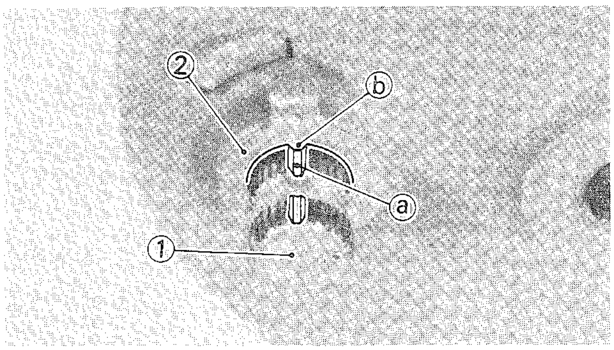
NOTE:
Replace the brake shoes as a set if either is found to be worn to the wear limit.

8. Inspect:
   - Brake drum inner surface
     Oil/Scratches→Remove.

Oil	**Use a rag soaked in lacquer thinner or solvent.**
Scratches	**Use an emery cloth (lightly and evenly polishing).**

9. Measure:
   - Brake drum inside diameter
     Out of specification→Replace.

Brake Drum Wear Limit:
111 mm (4.37 in)



INSTALLATION

Reverse the removal procedure. Note the following points.

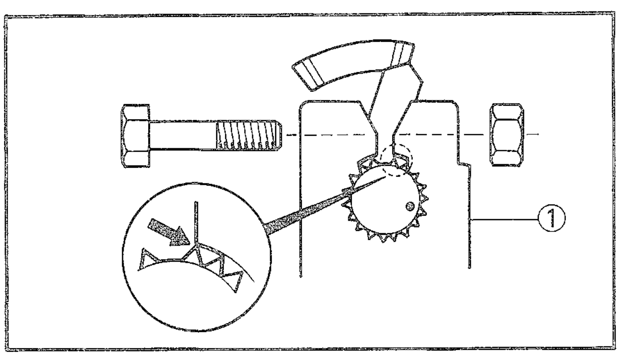
1. Install:
   - Brake cam shaft ①
   - Wear indicator ②

NOTE:

- Apply the lithium soap base grease onto the brake cam shaft.
- Align the slot ⓐ on the brake cam shaft with the projection ⓑ on the wear indicator.

CAUTION:

Wipe off the excess grease.

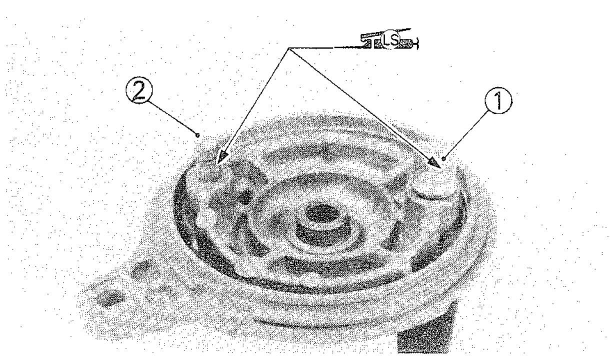


2. Install:
   - Brake cam lever ①

NOTE:

Install the brake cam lever as shown.

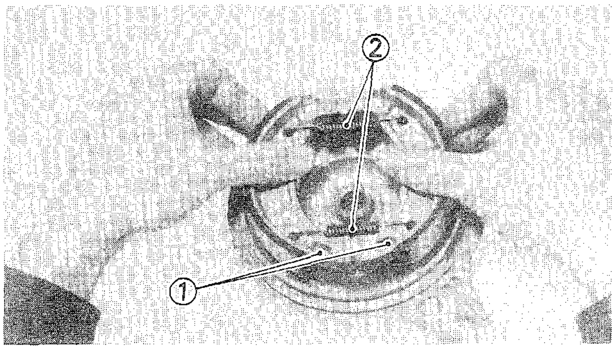
Bolt (Brake Cam Lever):
10 Nm (1.0 m•kg, 7.2 ft•lb)



3. Apply:
   - Lithium soap base grease
     Onto the brake cam lever ① and pivot shaft ②.

CAUTION:

Wipe off the excess grease.



4. Install:
   - Brake shoes ①
   - Springs (Brake shoe) ②

CAUTION:

When installing the spring and brake shoe, take care not to damage the spring and not to apply grease to the brake shoes.

5. Apply:
   - Lithium base grease
     Lightly grease to the oil seal lips.

6. Adjust:
   - Drive chain slack
     Refer to "CHAPTER 3—DRIVE CHAIN ADJUSTMENT" section.

> **Drive Chain Slack:**
> **25 ~ 30 mm (1.0 ~ 1.2 in)**

7. Tighten:
   - Nut (Rear wheel axle)
   - Nut (Torsion bar)

> **Nut (Rear Wheel Axle):**
> **60 Nm (6.0 m•kg, 43 ft•lb)**
> **Nut (Torsion bar):**
> **19 Nm (1.9 m•kg, 13 ft•lb)**

8. Install:
   - Cotter pin

WARNING:

Always use a new cotter pin.

9. Bend the ends of cotter pins.

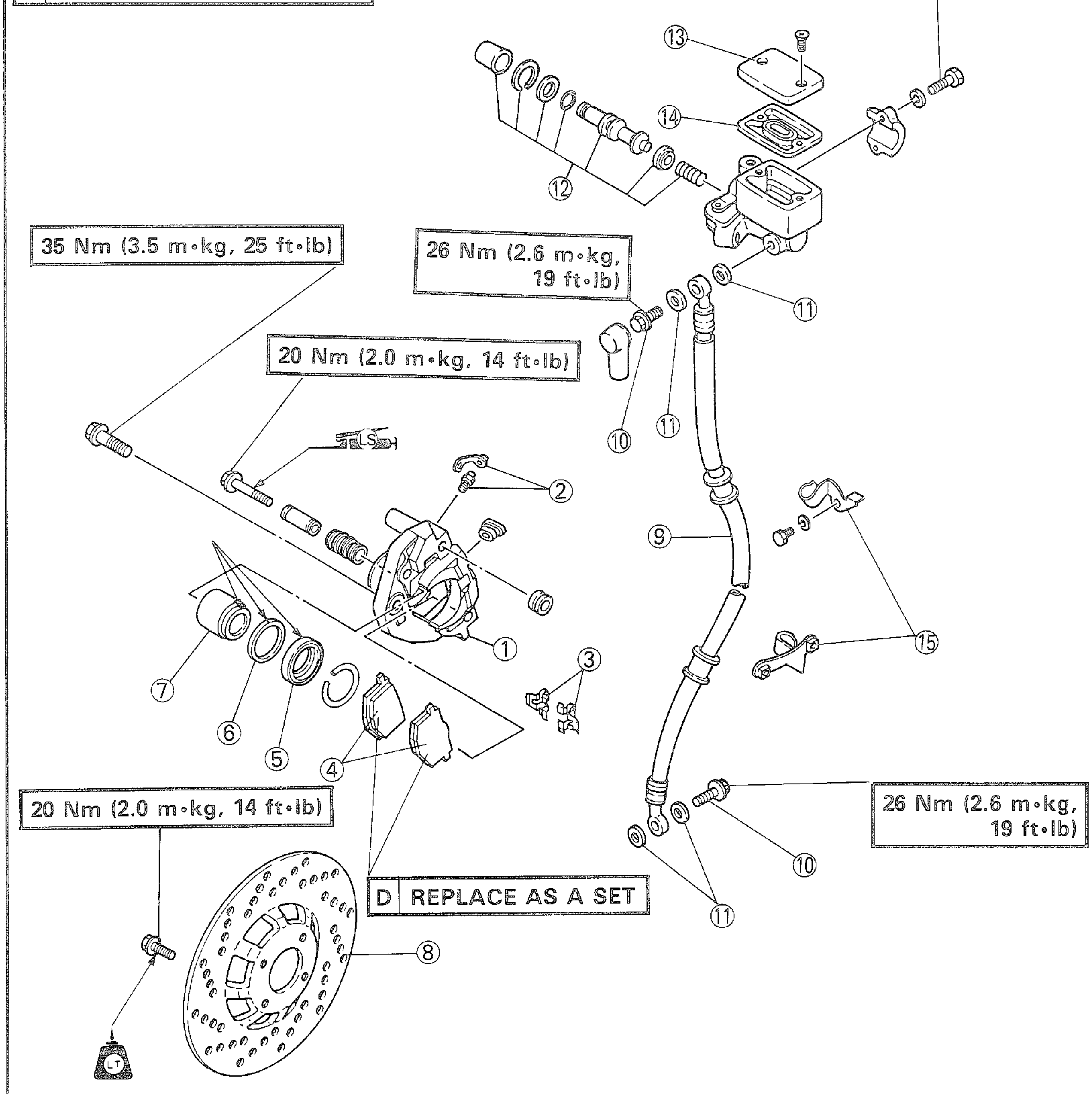
10. Adjust:
    - Rear brake pedal pree play
      Refer to "CHAPTER 3—REAR BRAKE ADJUSTMENT" section.

> **Rear Brake Pedal Free Play:**
> **20 ~ 30 mm (0.8 ~ 1.2 in)**

FRONT BRAKE

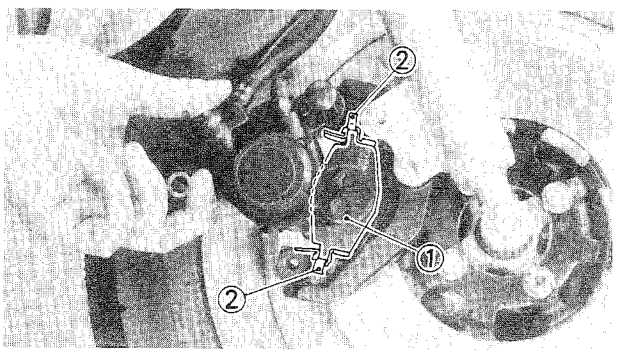
① Caliper
② Bleed screw
③ Pad spring
④ Brake pads
⑤ Dust seal
⑥ Piston seal
⑧ Brake disc
⑨ Brake hose
⑩ Union bolt
⑪ Copper washer
⑫ Master cylinder kit
⑬ Master cylinder cap
⑭ Diaphragm
⑮ Brake hose holder

A	BRAKE FLUID TYPE: DOT #3
B	BRAKE PAD WEAR LIMIT: 0.5 mm (0.02 in)
C	BRAKE DISC WEAR LIMIT: 3.5 mm (0.14 in)



CAUTION:

Disc brake components rarely require disassembly. Do not disassemble components unless absolutely necessary. If any hydraulic connection in the system is opened, the entire system should be disassembled, drained, cleaned and then properly filled and bled upon reassembly. Do not use solvents on brake internal components.
Solvents will cause seals to swell and distort. Use only clean brake fluid for cleaning. Use care with brake fluid. Brake fluid is injurious to eyes and will damage painted surfaces and plastic parts.

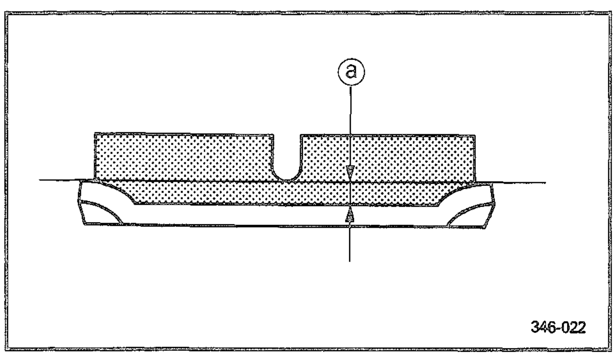


BRAKE PAD REPLACEMENT

NOTE:

It is not necessary to disassemble the brake caliper and brake hose to replace the brake pads.

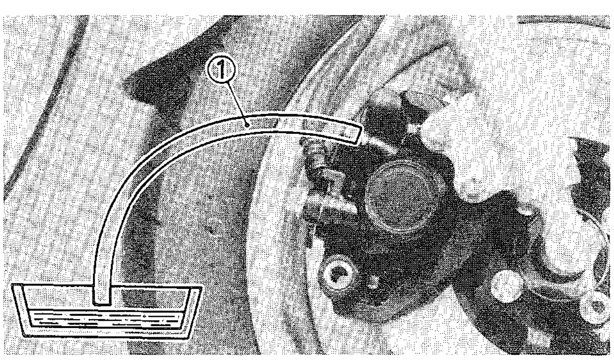
1. Remove:
   - Bolt (Caliper body)
2. Remove:
   - Brake pads ①
   - Pad springs ②



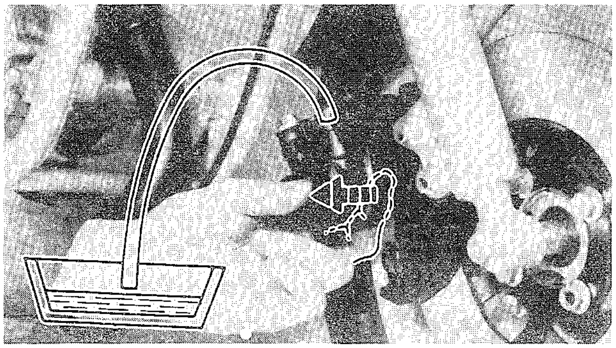
Pad Wear Limit ⓐ:
0.5 mm (0.02 in)

NOTE:

Replace the pads as a set if either is found to be worn to the wear limit.



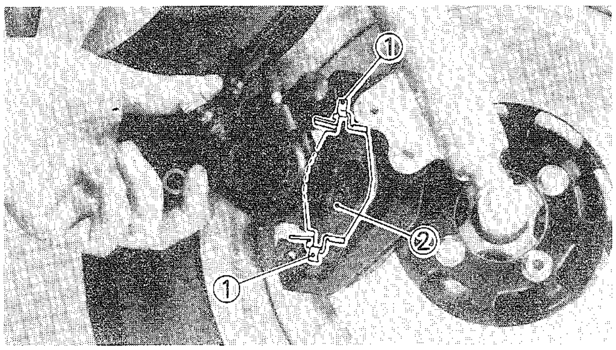
3. Connect a suitable hose ① tightly to the caliper bleed screw. Then, place other end of this hose into an open container.



4. Loosen the caliper bleed screw and push the pistons into the caliper by your finger.

5. Tighten:
   - Caliper bleed screw

	Caliper Bleed Screw: **5 Nm (0.5 m•kg, 3.6 ft•lb)**



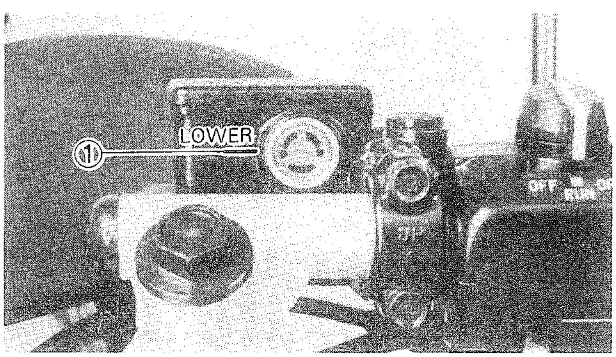
6. Install:
   - Pad springs ①
   - Brake pads (New) ②

NOTE:

Install the pad spring with it longer tangs facing towards the disc rotation direction.

7. Install:
   - Bolts (Caliper body)
   - Caliper cover

	Bolts (Caliper body): **20 Nm (2.0 m•kg, 14 ft•lb)**



8. Inspect:
   - Brake fluid level
     Refer to "BRAKE FLUID INSPECTION" section in CHAPTER 3.

① "LOWER" level line

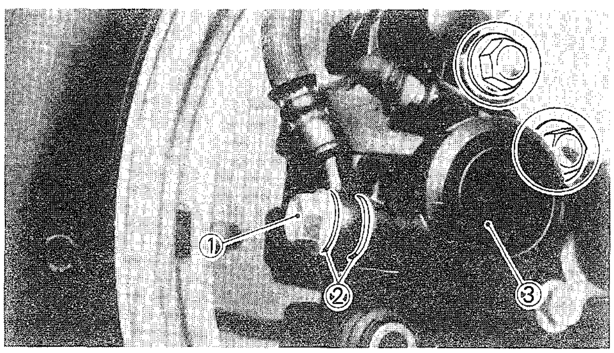
9. Check:
   - Brake lever operation
     A softy or spongy filling→Bleed brake system.
     Refer to "AIR BLEEDING" section in CHAPTER 6.

CALIPER DISASSEMBLY

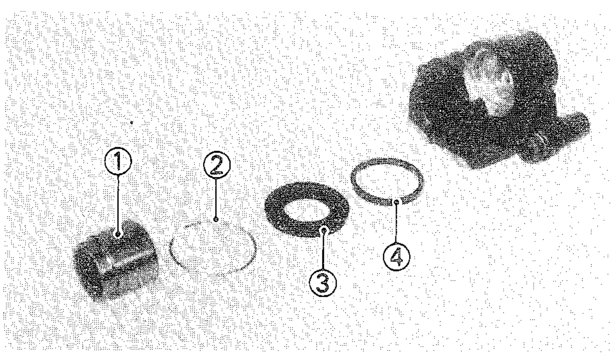
NOTE:

Before disassemblying the brake caliper, drain the brake system of the brake fluid.

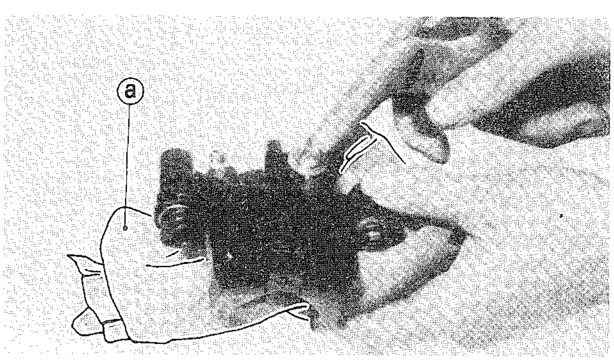
1. Remove:
   - Brake pads
     Refer to "BRAKE PAD REPLACEMENT" section.



2. Remove:
   - Union bolt (Brake hose) ①
   - Copper washers ②
   - Caliper body
   - Caliper bracket ③



3. Remove:
   - Caliper piston ①
   - Clip ②
   - Piston seal ③
   - Dust seal ④



Removal steps:

- Using a rag ⓐ, lock the right side piston.
- Blow compressed air into the hose joint opening to force out the caliper piston from the caliper body.
- Remove the clip.

CAUTION:

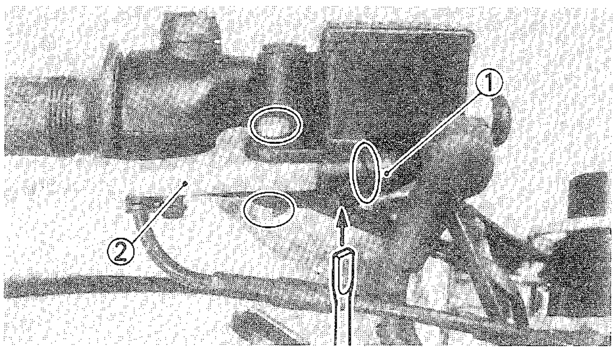
When removing the clip, take care no to damage the dust seal.

- Remove the dust seal and piston seal.

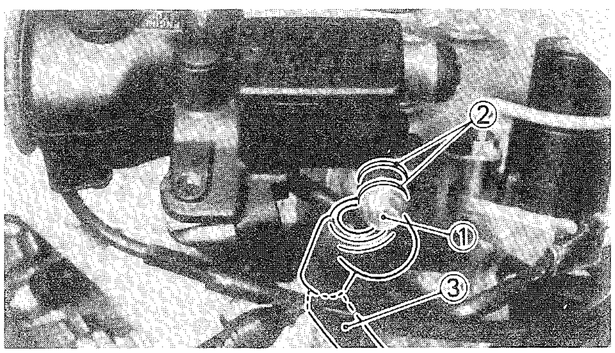
MASTER CYLINDER DISASSEMBLY

NOTE:

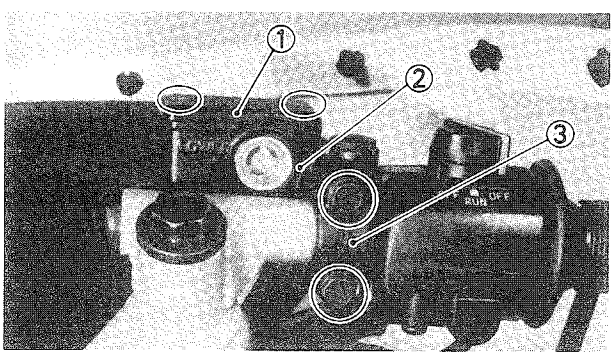
Before disassemblying the front master cylinders, drain the brake system of the brake fluid.



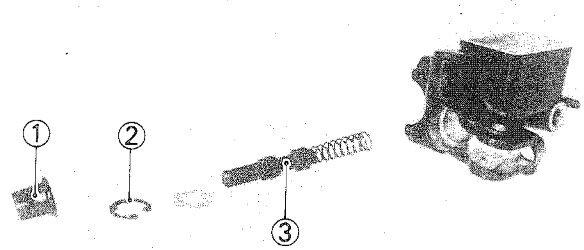
1. Remove:
   - Brake switch ①
   - Brake lever ②
   - Spring



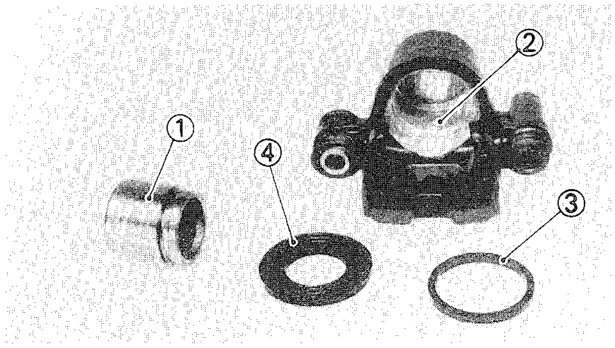
2. Remove:
   - Union bolt (Brake hose) ①
   - Copper washers ②
   - Brake hose ③



3. Remove:
   - Master cylinder cap ①
   - Diaphragm
   - Master cylinder ②
   - Master cylinder bracket ③

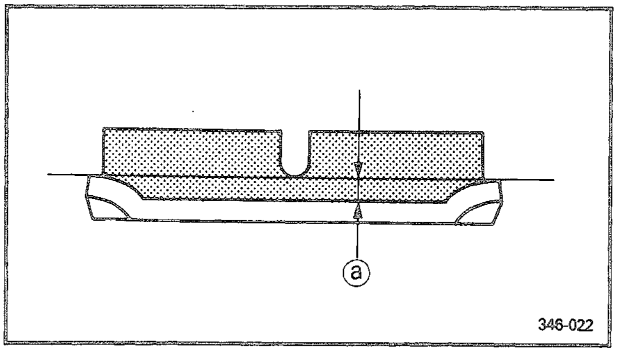


4. Remove:
   - Master cylinder boot ①
   - Circlip ②
   - Master cylinder kit ③



INSPECTION AND REPAIR

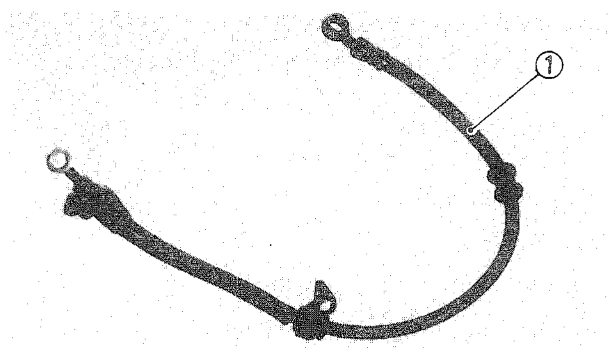
1. Inspect:
   - Caliper piston ①
     Rust/Wear→Replace.
   - Caliper cylinder body ②
     Wear/Scratches→Replace.
   - Piston seal ③
   - Dust seal ④
     Damage→Replace.



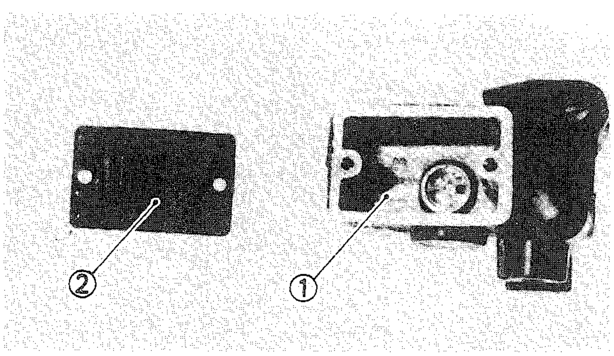
2. Measure:
   - Brake pad thickness ⓐ
     Out of specification→Replace.

> **Pad Wear Limit:**
> **0.5 mm (0.02 in)**

NOTE:
Replace the pads as a set if either is found to be worn to the wear limit.



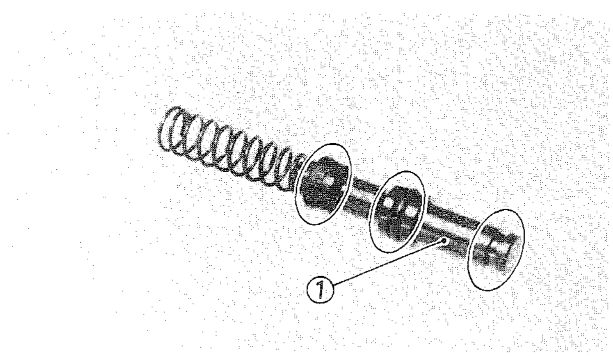
3. Inspect:
   - Brake hose ①
     Cracks/Damage→Replace.



4. Inspect:
   - Master cylinder body ①
     Scratches/Wear→Replace.

NOTE:
Clean all passages with new brake fluid.

   - Diaphragm ②
     Damage→Replace.



5. Inspect:
   - Master cylinder kit ①
     Scratches/Wear→Replace.

6. Inspect:
   - Brake disc
     Out of specification→Replace.

Maximum Deflection: 0.15 mm (0.006 in)
Minimum Disc Thickness: 3.5 mm (6.14 in)

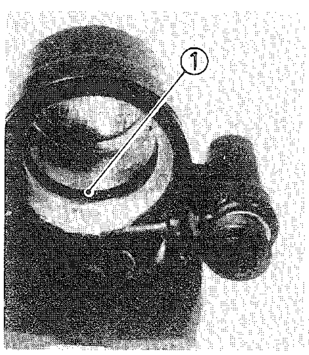
ASSEMBLY

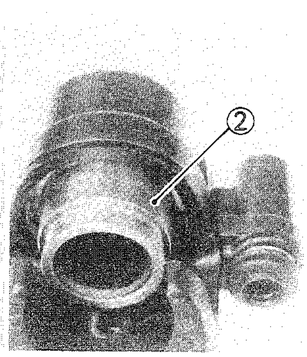
WARNING:

- All internal parts should be cleaned in new brake fluid only.
- Internal parts should be lubricated with brake fluid when installed.

Brake Fluid: DOT #3

- Replace the piston seals whenever a caliper is disassembled.

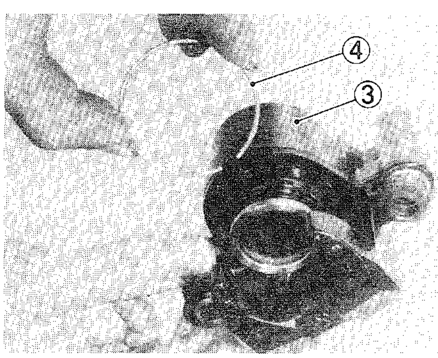


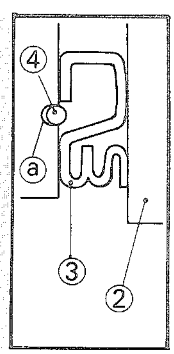


1. Install:
   - Piston seal ①
   - Caliper piston ②
   - Dust seal ③
   - Clip ④

NOTE:

Apply the lithium soap base grease onto the piston seal, caliper piston and dust seal.



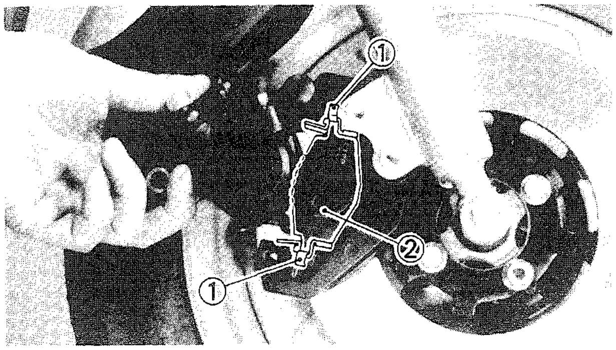


CAUTION:

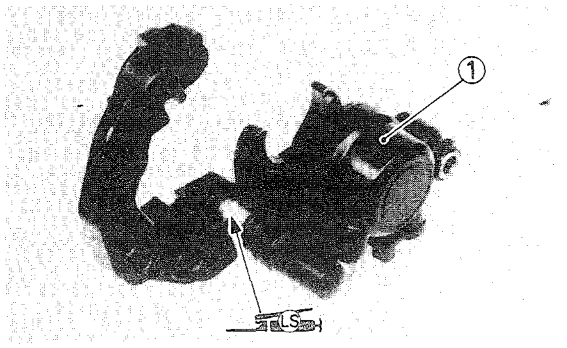
Install the clip onto the slot ⓐ on the caliper body correctly.

2. Install:
   - Caliper

Bolt (Caliper bracket): 35 Nm (3.5 m•kg, 25 ft•lb)



3. Install:
   - Pad springs ①
   - Brake pads ②
   Refer to "BRAKE PAD REPLACEMENT" section.



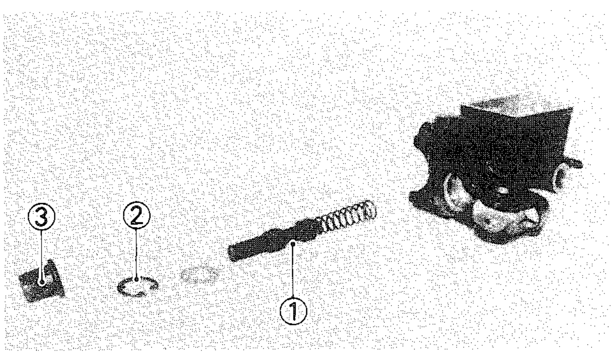
4. Install:
   - Caliper ①

NOTE:
Apply the grease onto the caliper shaft.

CAUTION:
- **Take care not to allow the brake pads to be smeared by grease.**
- **Wipe off any unnecessary grease that comes out of place.**

5. Install:
   - Bolt (Caliper body)

> **Bolt (Caliper body):**
> **20 Nm (2.0 m•kg, 14 ft•lb)**

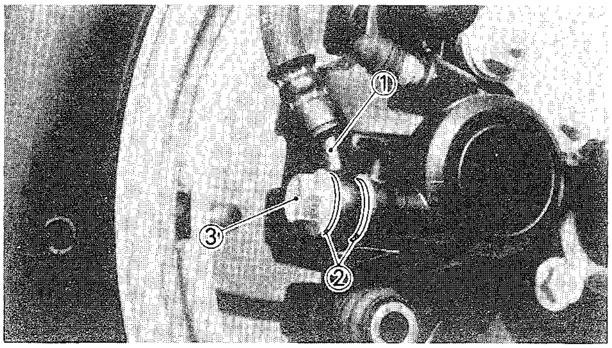


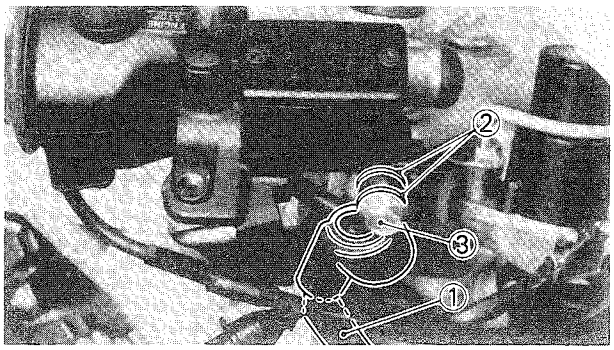
6. Install:
   - Master cylinder kit ①
   - Circlip ②
   - Dust boot ③

7. Install:
   - Master cylinder
   - Master cylinder bracket

NOTE:
Install the master cylinder bracket with the "UP" mark facing upward.

> **Bolt (Master Cylinder Bracket):**
> **10 Nm (1.0 m•kg, 7.2 ft•lb)**





8. Install:
   - Brake hose ①
   - Copper washers ②
   - Union bolts ③

Union Bolts:
26 Nm (2.6 m•kg, 19 ft•lb)

WARNING:

Proper hose routing is essential to insure safe motorcycle operation. Refer to "CABLE ROUTING".

9. Install:
   - Brake lever
   - Spring

10. Fill:
    - Brake fluid

Brake Fluid:
DOT #3

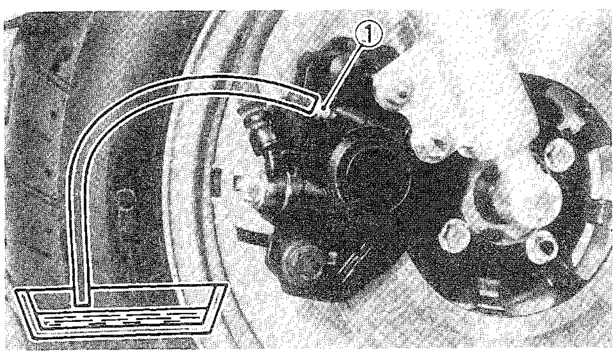
11. Bleed:
    - Air
      From brake system.
      Refer to "AIR BLEEDING" section.
12. Install:
    - Diaphramm
    - Master cylinder cap

AIR BLEEDING

WARNING:

Bleed the brake system if:
- The system has been disassembled.
- A brake hose has been loosened or removed.
- The brake fluid is very low.
- The brake operation is faulty.

A dangerous loss of braking performance may occur if the brake system is not properly bled.



Air bleeding steps:

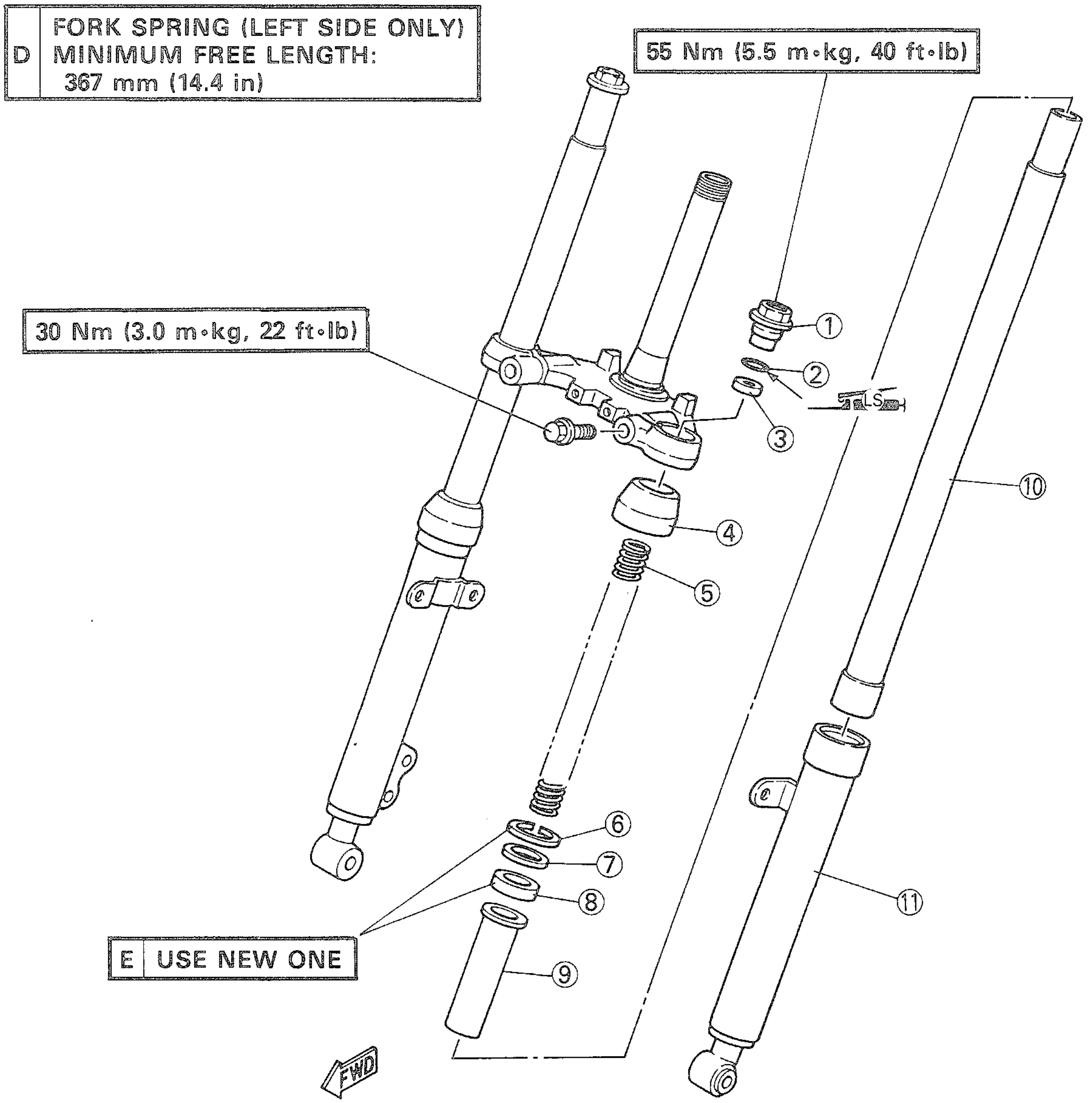
a. Add proper brake fluid to the reservoir.
b. Install diaphragm.
   Be careful not to spill any fluid or allow the reservoir to overflow.
c. Connect the clear plastic tube (4.5 mm (3/16 in) inside dia.) tightly to the caliper bleed screw ①.
d. Place the other end of the tube into a container.
e. Slowly apply the brake lever several times.
f. Pull the lever in. Hold the lever in position.
g. Loosen the bleed screw and allow the lever to travel towards its limit.
h. Tighten the bleed screw when the lever limit has been reached; then release the lever.
i. Repeat steps (e) to (h) until all of the air bubbles have been removed from the system.

FRONT FORK

① Cap bolt
② O-ring
③ Spring seat
④ Dust seal
⑤ Fork spring
⑥ Circlip
⑦ Plain washer
⑧ Oil seal
⑨ Slide metal
⑩ Inner tube
⑪ Outer tube

		LEFT	RIGHT
A	FORK OIL CAPACITY:	126 cm^3 (4.44 Imp qt, 4.26 US qt)	164 cm^3 (5.77 Imp qt, 5.54 US qt)
B	FORK OIL LEVEL:	146 mm (5.74 in)	51 mm (2.01 in)
		FROM TOP OF THE INNER FORK TUBE FULLY COMPRESSED (WITHOUT SPRING)	
C	FORK OIL GRADE: YAMAHA FORK OIL 10WT OR EQUIVALENT		

D	FORK SPRING (LEFT SIDE ONLY) MINIMUM FREE LENGTH: 367 mm (14.4 in)

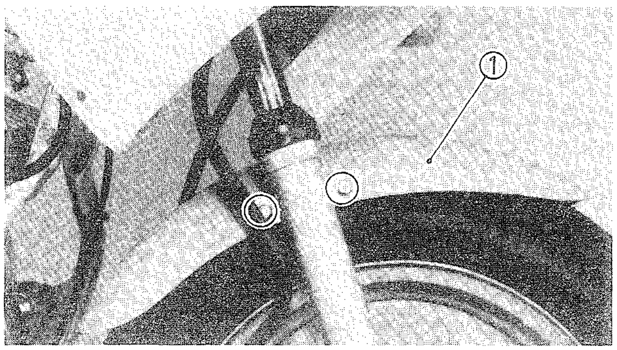


REMOVAL

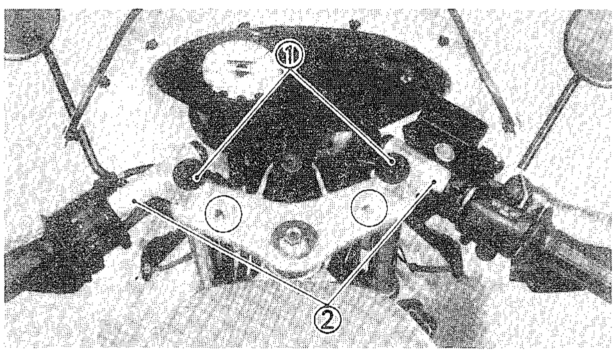
WARNING:

Support the motorcycle securely so there is no danger of it falling over.

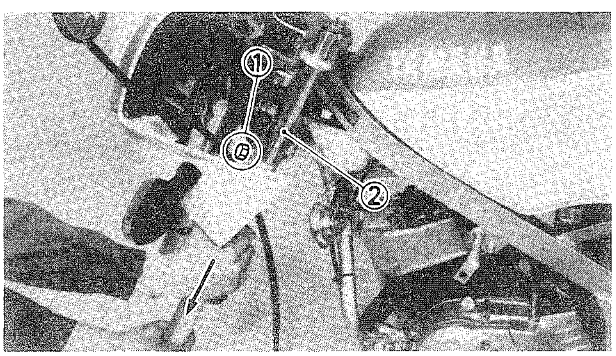
1. Remove:
   - Front wheel
     Refer to "FRONT WHEEL—REMOVAL" section.



2. Remove:
   - Front fender ①



3. Remove:
   - Cap bolts ①
   - Handlebars ②

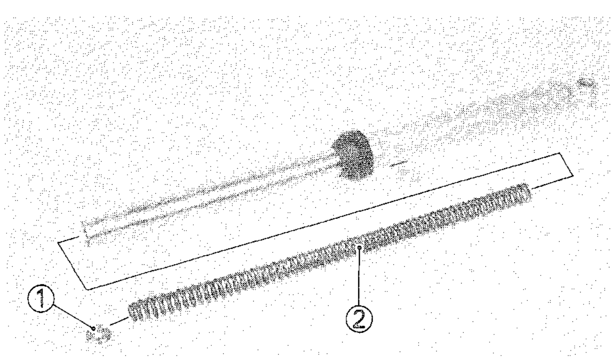


4. Loosen:
   - Pinch bolt (Lower) ①
5. Remove:
   - Front fork ②

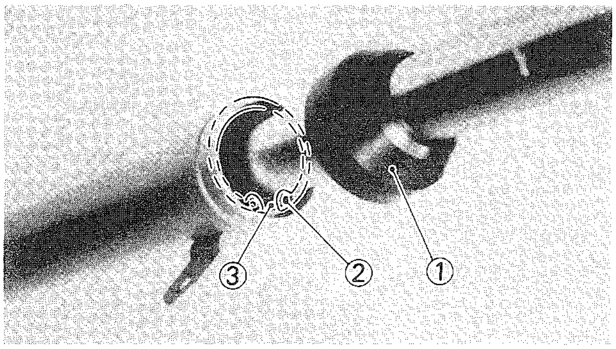
CAUTION:

Support the fork before loosening the pinch bolt.

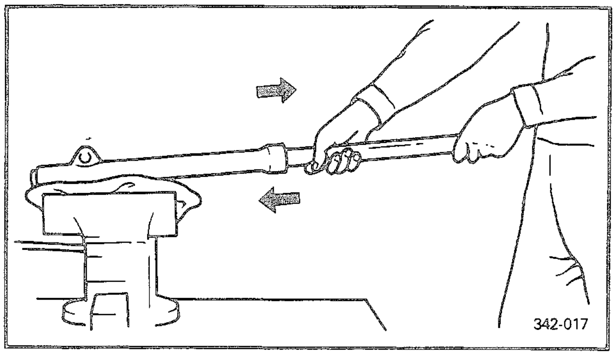
DISASSEMBLY



1. Remove:
   - Spring seat ① (Left side only)
   - Fork spring ② (Left side only)



2. Drain:
   - Fork oil
3. Remove:
   - Dust seal ①
   - Circlip ②
   - Plain washer ③

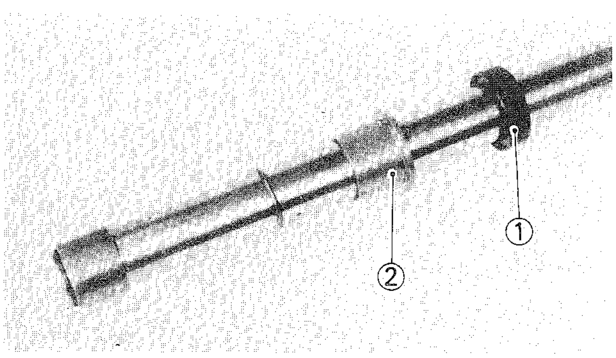


4. Remove:
   - Inner tube

Removal steps:
- Hold the fork leg horizontally.
- Pull out the inner fork tube from the outer tube by forcefully, but carefully, withdrawing the inner fork tube.

NOTE:

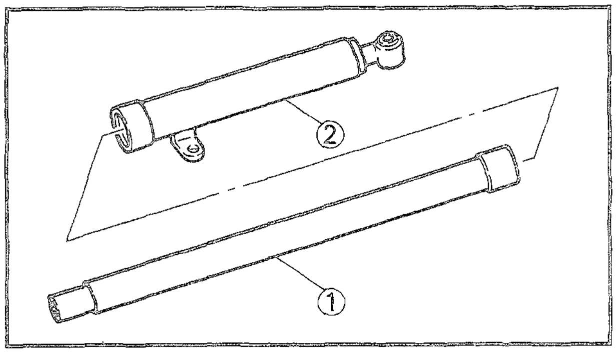
Avoid bottoming the inner tube in the outer tube during the above procedure, as the inner tube will be damaged.



5. Remove:
   - Oil seal ①
   - Slide metal ②

CAUTION:

Always replace the oil seal when disassembling the front fork.



INSPECTION

1. Inspect:
   - Inner fork tube ①
   - Outer fork tube ②

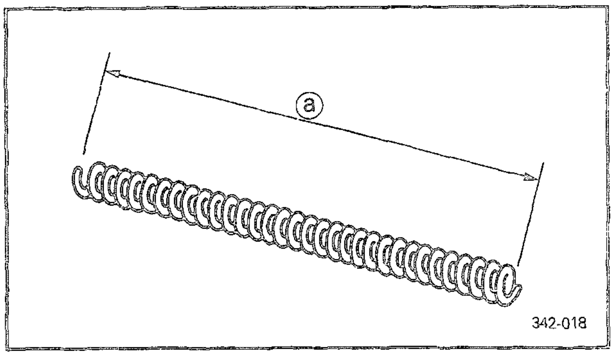
   Scratches/Bends/Damage→Replace.

WARNING:

Do not attempt to straighten a bent inner fork tube as this may dangerously weaken the tube.

2. Inspect:
   - Dust seal
   - O-ring (Cap bolt)

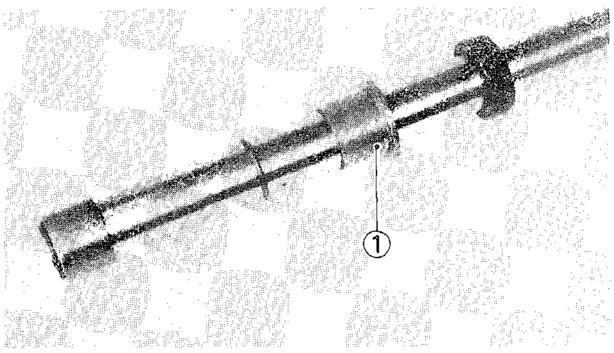
   Scratches/Damage→Replace.



2. Measure:
   - Fork spring free length ⓐ (Left side only)

   Out of specification→Replace.

Fork Spring Free Length: 374.2 mm (14.7 in) **Minimum Free Length:** 367 mm (14.4 in)



3. Inspect:
   - Slide metal ①

   Scratches/Wear/Damage→Replace.

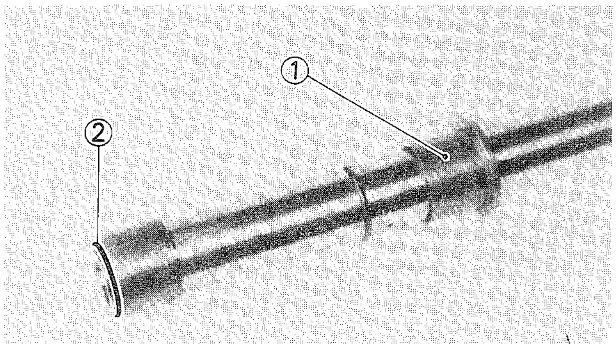
ASSEMBLY

Reverse the disassembly procedure.

Note the following points.

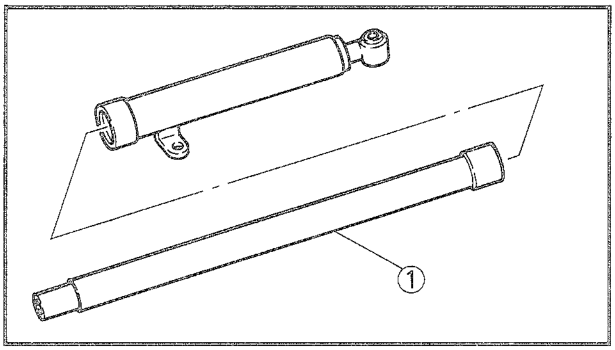
NOTE:

Be sure all components are clean before assembly.



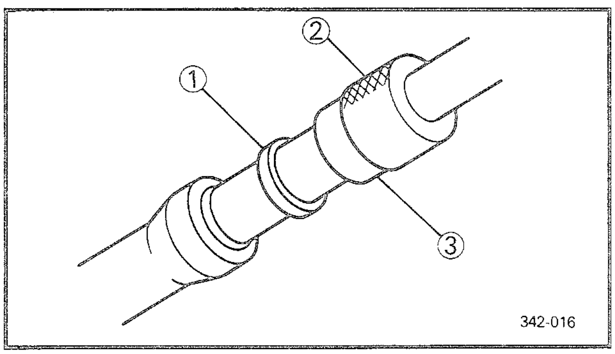
1. Install:
   - Slide metal ①
   - Clip ②

   To inner tube.



2. Install:
   - Inner tube ①

   To outer tube.



3. Install:
   - Oil seal (New) ①

NOTE:

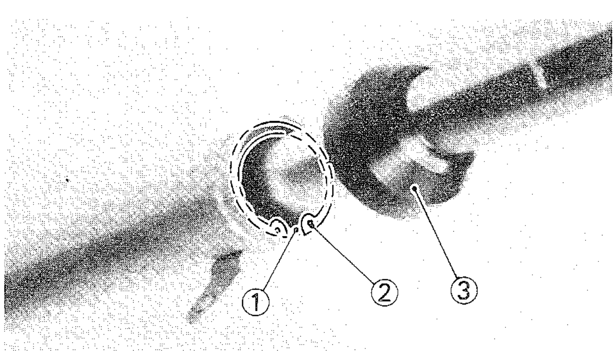
- Apply the lithium soap base grease onto the oil seal lip before installing the oil seal.
- Be sure oil seal numbered side face upward.

CAUTION:

- **Take care not to damage the oil seal lip.**
- **Always use a new oil seal.**

4. Press the oil seal into the inner tube with Fork Seal Driver ③ and Weight ②.

Fork Seal Driver:
YM-33281
Weight:
YM-33963

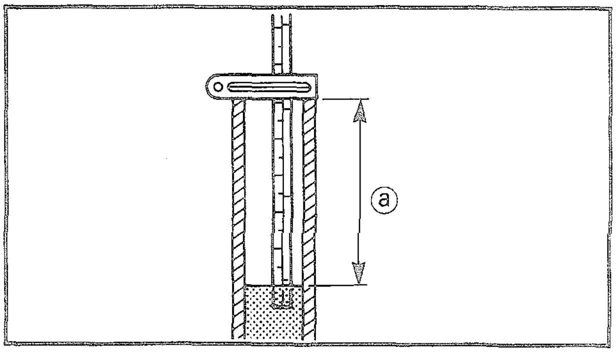


5. Install:
   - Plain washer ①
   - Circlip ②
   - Dust seal ③

6. Fill:
   - Front fork

Fork Oil Capacity: Left: 126 cm^3 (4.44 Imp qt, 4.26 US qt) Right: 164 cm^3 (5.77 Imp qt, 5.54 US qt) Grade: Yamaha Fork Oil 10WT or Equivalent

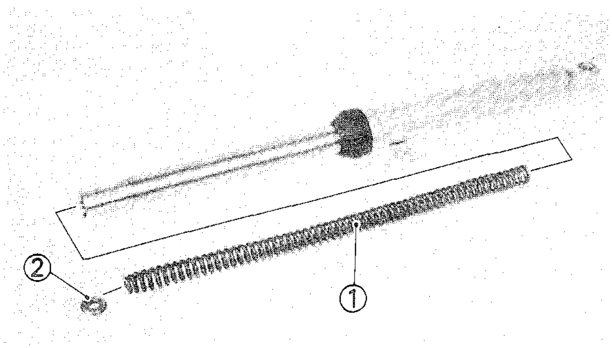
NOTE:
After filling the front fork with fork oil, slowly pump the front fork up and down to distribute oil.



7. Measure:
   - Oil level ⓐ
     Out of specification→Add or reduce oil.

Oil Level: Left: 146 mm (5.74 in) Right: 51 mm (2.01 in) From the top of the inner fork tube fully compressed without spring.

NOTE:
Place the front fork on upright position.



8. Install:
   - Fork spring ① (Left side only)
   - Spring seat ② (Left side only)

NOTE:
Install the fork spring so that tapered side face upward.

INSTALLATION

Reverse the removal procedure.
Note the following points.

1. Install:
   - Front fork

Pinch Bolt (Lower):
30 Nm (3.0 m•kg, 22 ft•lb)

2. Install:
   - Handlebar
   - Cap bolt ①

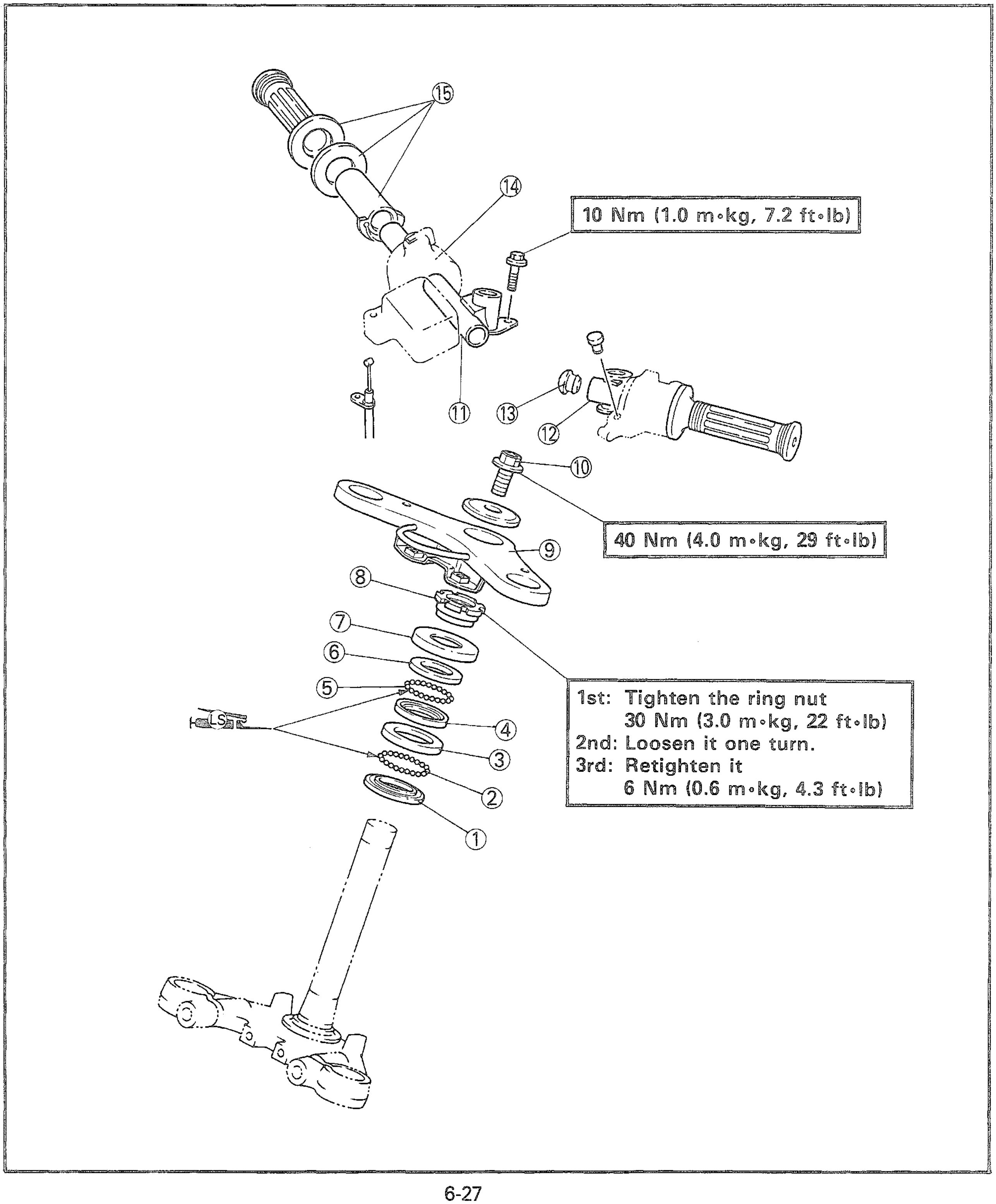
NOTE:

Apply the lithium soap base grease onto the O-ring.

Bolt (Handlebar):
10 Nm (1.0 m•kg, 7.2 ft•lb)
Cap Bolt:
55 Nm (5.5 m•kg, 40 ft•lb)

STEERING HEAD AND HANDLEBAR

① Bearing race (Lower—Bottom)
② Ball (1/4 in—19 pcs.)
③ Bearing race (Lower—Top)
④ Bearing race (Upper—Bottom)
⑤ Ball (3/16 in—22 pcs.)
⑥ Bearing race (Upper—Top)
⑦ Bearing race cover
⑧ Ring nut
⑨ Handle crown
⑩ Steering stembolt
⑪ Handlebar (Right)
⑫ Handlebar (Left)
⑬ Cap
⑭ Throttle housing
⑮ Throttle grip



REMOVAL

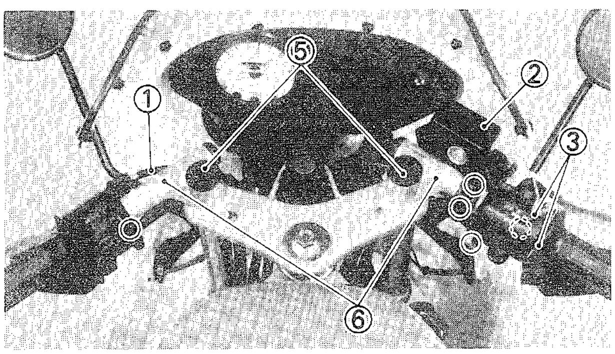
WARNING:

Securely support the motorcycle so there is no danger of it falling over.

1. Remove:
   - Lower cowling
   - Upper cowling

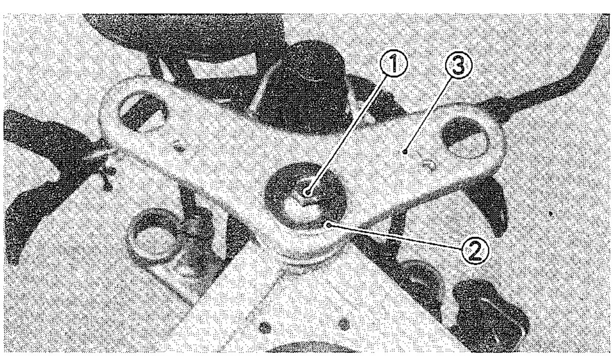
   Refer to "CHAPTER 3–COWLINGS" section.
2. Remove:
   - Front wheel

   Refer to "FRONT WHEEL–REMOVAL" section.

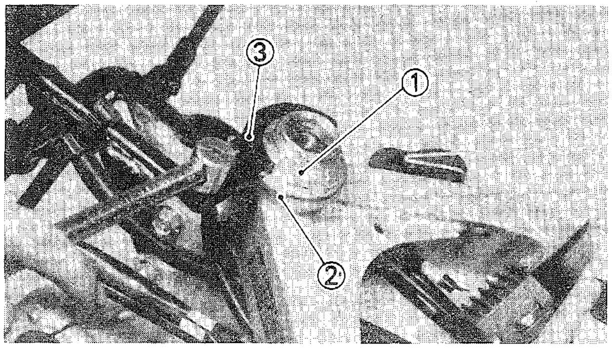


3. Disconnect:
   - Clutch cable ①
4. Remove:
   - Front brake master cylinder ②
   - Throttle grip ③
   - Handlebar switch (Left) ④
   - Cap bolts ⑤
   - Handlebars ⑥
5. Remove:
   - Front forks

   Refer to "FRONT FORK–REMOVAL" section.

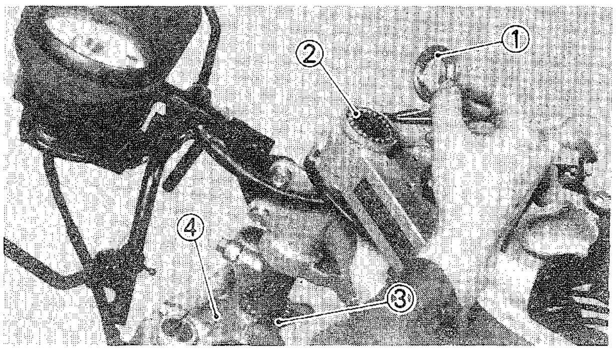


6. Remove:
   - Steering stem bolt ①
   - Washer ②
   - Handle crown ③



7. Remove:
   - Ring nut ①
   - Ball race cover ②
   Use the Ring Nut Wrench ③.

	Ring Nut Wrench: **YU-33975**



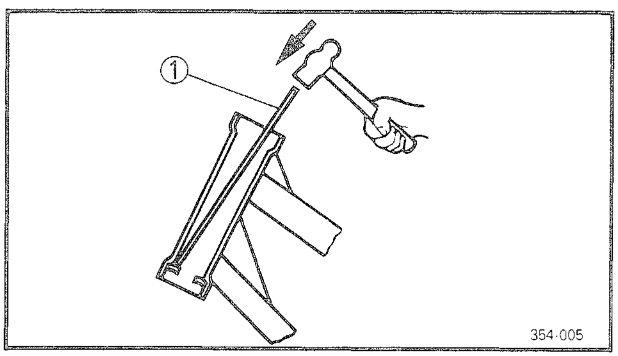
8. Remove:
   - Ball race (Upper—Top) ①
   - Upper balls (3/16 in—22 pcs.) ②
   - Lower balls (1/4 in—19 pcs.) ③
   - Under bracket ④

INSPECTION

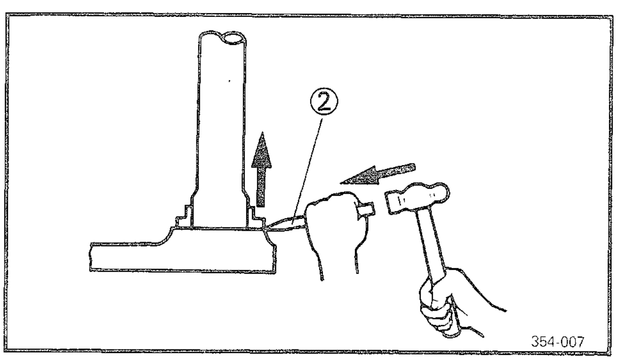
1. Wash the ball bearings and bearing races with a solvent.

2. Inspect:
   - Ball bearings
   - Bearing races
   Pitting/Damage→Replace.

NOTE:
Always replace bearings and races as a set.



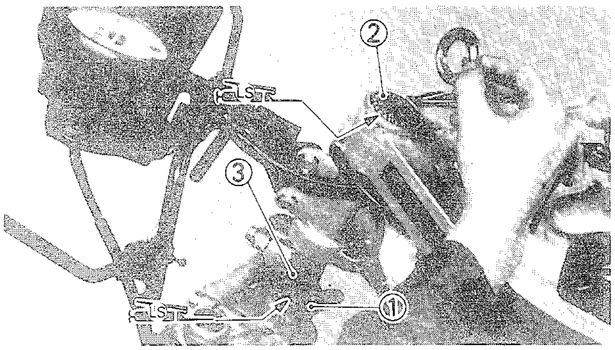
Bearing race replacement steps:
- Remove the bearing races on the head pipe using long rod ① and the hammer as shown.
- Remove the bearing race on the under bracket using the floor chisel ② and the hammer as shown.
- Install the new dust seal and races.



3. Inspect:
   - Handlebars
     Bends/Cracks/Damage→Replace.

WARNING:

Do not attempt to straighten a bent handlebar as this may dangerously weaken the handlebar.



INSTALLATION

Reverse the removal procedure. Note the following points.

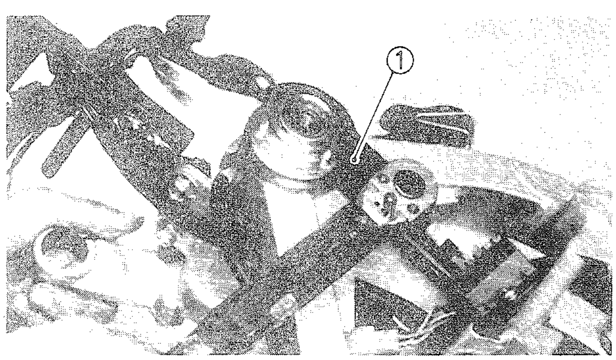
1. Apply:
   - Lithium soap base grease
     To bearing races.
2. Install:
   - Upper balls ②
     To bearing race (Upper—Bottom).
   - Lower balls ①
     To bearing race (Lower—Bottom).
     Arrange the bearings around race, and apply more grease.

Ball Quantity/Size
Upper 22 pcs./ 3/14 in
Lower 19 pcs./ 1/4 in

3. Install:
   - Under bracket ③

CAUTION:

Hold the under bracket until it is secured.



4. Tighten:
   - Ring nut

Ring nut tightening steps:
- Tighten the ring nut using the Ring Nut Wrench ①.

Ring Nut Wrench:
YU-33975

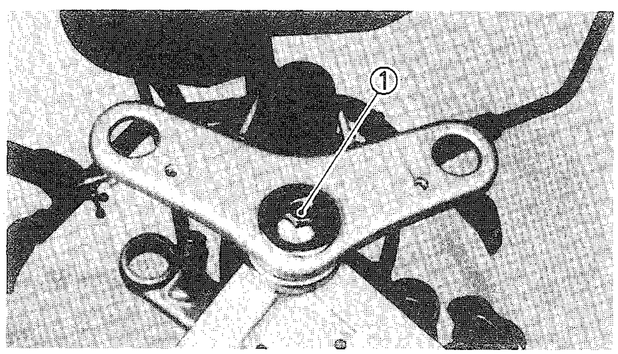
NOTE:
Set the torque wrench to the ring nut wrench so that they form a right angle.

Ring Nut (Initial Tightening): 30 Nm (3.0 m•kg, 22 ft•lb)

- Loosen the ring nut one turn.
- Retighten the ring nut using the Ring Nut Wrench.

WARNING:
Avoid over-tightening.

Ring Nut (Final Tightening): 6 Nm (0.6 m•kg, 4.3 ft•lb)



5. Install:
   - Handle crown

NOTE:
Temporary tighten the steering fitting bolt ①.

6. Install:
   - Front forks
     Refer to "FRONT FORK—INSTALLATION" section.

Pinch Bolt (Lower): 30 Nm (3.0 m•kg, 22 ft•lb)

7. Tighten:
   - Steering stem bolt

Steering Stem Bolt: 40 Nm (4.0 m•kg, 29 ft•lb)

8. Install:
   - Handlebars
   - Cap bolts

NOTE:
Before installing the right-hand handlebar onto the handle crown, apply a light coat of lithium soap base grease onto the handlebar end and install the throttle grip to the handlebar.

Bolt (Handlebar):
10 Nm (1.0 m•kg, 7.2 ft•lb)
Cap Bolt:
55 Nm (5.5 m•kg, 40 ft•lb):

9. Install:
   - Front brake master cylinder

NOTE:
- Install the master cylinder bracket with the "UP" mark facing upward.
- Tighten first the upper bolt, then the lower bolt.

Bolts (Master Cylinder Bracket):
10 Nm (1.0 m•kg, 7.2 ft•lb)

10. Install:
    - Clutch cable

NOTE:
Apply a light coat of lithium soap base grease onto the clutch cable end.

11. Install:
    - Front wheel
      Refer to "FRONT WHEEL—REMOVAL" section.

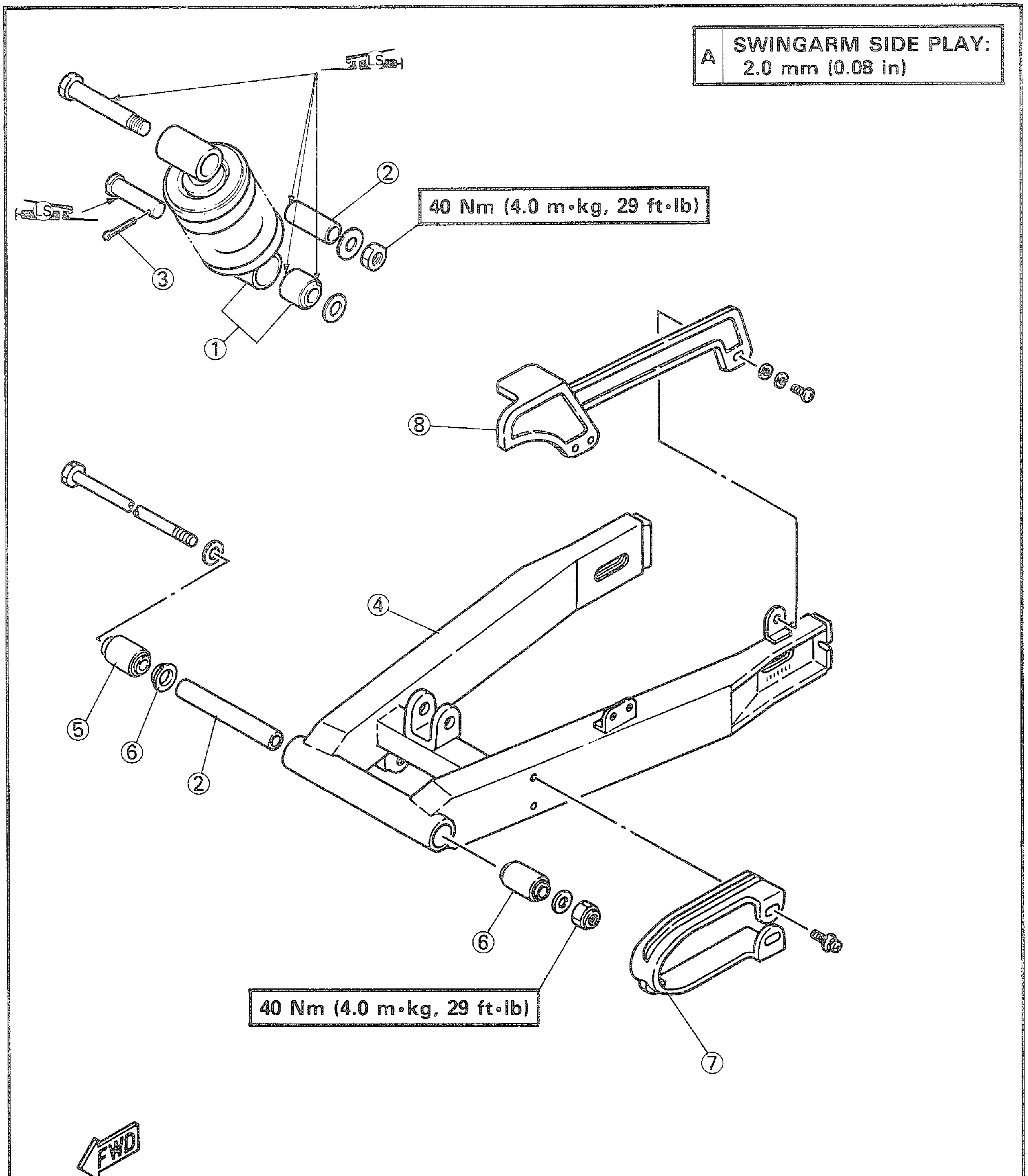
Nut (Front Wheel Axle):
40 Nm (4.0 m•kg, 29 ft•lb)

12. Adjust:
    - Clutch Cable Free Play

Free Play:
2~3 mm (0.08~0.12 in)

REAR SHOCK ABSORBER AND SWINGARM

① Rear shock absorber
② Bush
③ Cotter pin
④ Swingarm
⑤ Push
⑥ Spacer
⑦ Chain support
⑧ Chain cover



REMOVAL

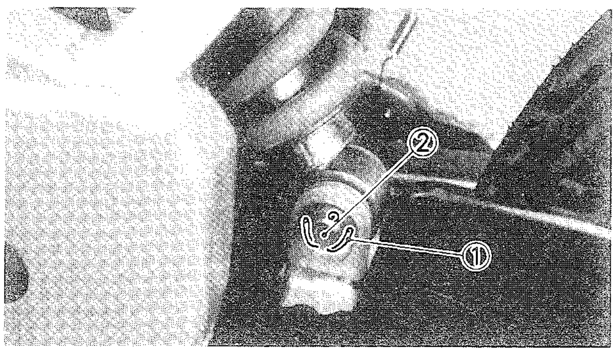
WARNING:

Securely support the motorcycle so there is no danger of it falling over.

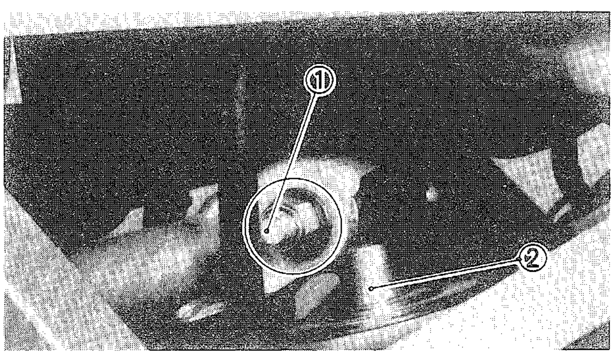
Rear Shock Absorber

1. Remove:
   - Lower cowling
     Refer to "CHAPTER 3—COWLINGS" section.

2. Place a jack under the engine and elevate the motorcycle.



3. Remove:
   - Cotter pin ①
   - Plain washer
   - Pin (Rear shock absorber—Lower) ②



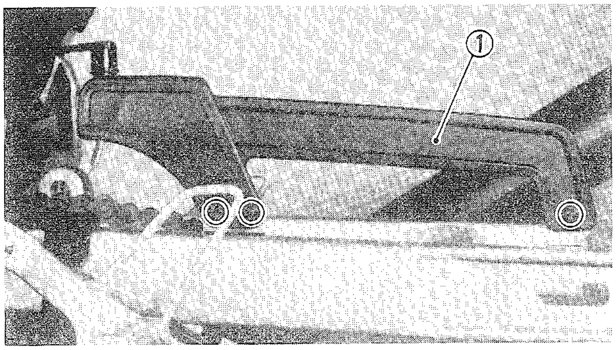
4. Remove:
   - Bolt (Rear shock absorber—Upper) ①
   - Rear shock absorber ②
   - Bush

Swingarm

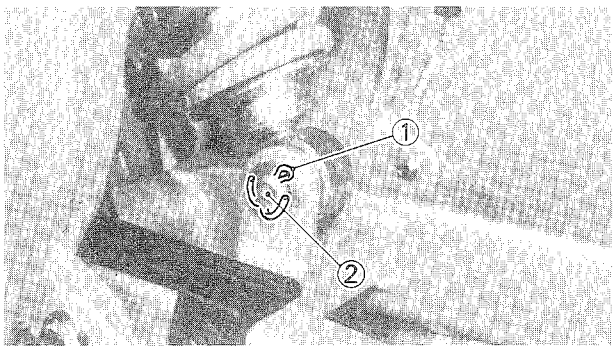
WARNING:

Securely support the motorcycle so there is no danger of it falling over.

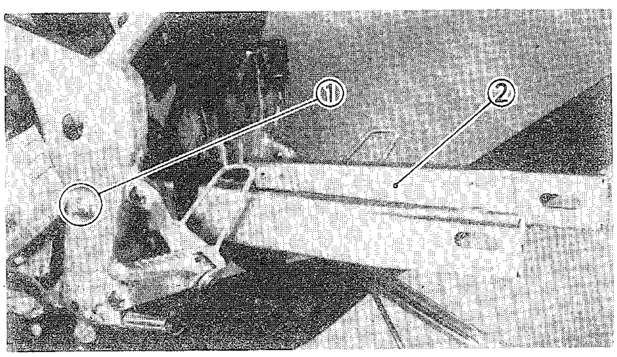
1. Remove:
   - Rear wheel
     Refer to "REAR WHEEL—REMOVAL" section.



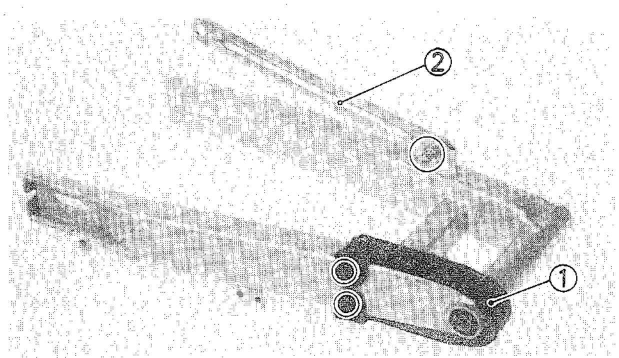
2. Remove:
   - Chain cover ①



3. Remove:
   - Cotter pin ①
   - Plain washer
   - Pin (Rear shock absorber—Lower) ②



4. Remove:
   - Pivot shaft ①
   - Swingarm ②



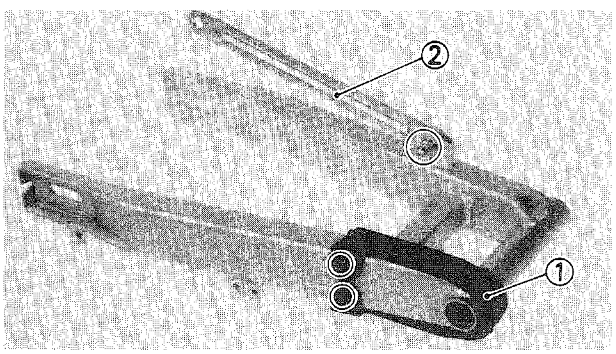
DISASSEMBLY

1. Remove:
   - Chain guide ①
   - Tension bar ②

INSPECTION

1. Wash the bushes and swingarm pivot in a solvent.
2. Inspect:
   - Rear shock absorber
     Oil leaks/Damage→Replace.

3. Inspect:
   - Swingarm
     Bends/Cracks/Damage→Replace.
4. Inspect:
   - Bushes
     Wear/Damage→Replace.
5. Inspect:
   - Chain guide
     Excess wear/Damage→Replace.



ASSEMBLY

1. Install:
   - Chain guide ①
   - Tension bar ②

	Nut (Tension Bar): **19 Nm (1.9 m•kg, 13 ft•lb)**

INSTALLATION

Swingarm

Reverse removal procedure.
Note the following points.

1. Install:
   - Swingarm

NOTE:
Apply the lithium soap base grease onto the pivot shaft.

	Nut (Pivot Shaft): **40 Nm (4.0 m•kg, 29 ft•lb)**

2. Install:
   - Pin (Rear shock absorber—Lower)
   - Cotter pin

WARNING:
Always use a new cotter pin.

3. Install:
   - Rear wheel
   Refer to "REAR WHEEL—INSTALLATION" section.

Nut (Rear Wheel Axle): **60 Nm (6.0 m•kg, 43 ft•lb)** **Nut (Tension Bar):** **19 Nm (1.9 m•kg, 13 ft•lb)**

4. Adjust:
   - Brake pedal free play
   - Drive chain slack
   Refer to "CHAPTER 3—REAR BRAKE ADJUSTMENT and DRIVE CHAIN ADJUSTMENT" section.

Drive Chain Slack: **25 ~ 30 mm (1.0 ~ 1.2 in)** **Brake Pedal Free Play:** **20 ~ 30 mm (0.8 ~ 1.2 in)**

Rear Shock Absorber

Reverse the removal procedure.
Note the following points.

1. Install:
   - Rear shock absorber

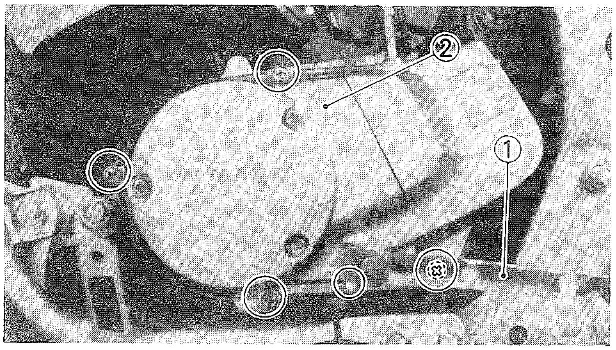
Bolt (Rear Shock Absorber—Upper): **40 Nm (4.0 m•kg, 29 ft•lb)**

NOTE:

Apply the lithium soap base grease onto the pin, bolt and oil seal lip.

WARNING:

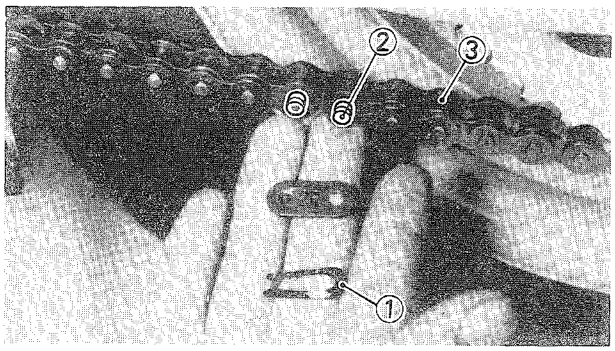
Always use a new cotter pin.



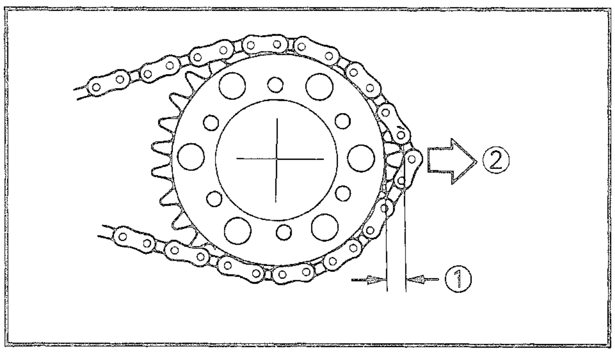
DRIVE CHAIN AND SPROCKETS

REMOVAL

1. Remove:
   - Change pedal ①
   - Crankcase cover (Left) ②



2. Remove:
   - Clip (Drive chain) ①
   - Joint (Drive chain) ②
   - Drive chain ③

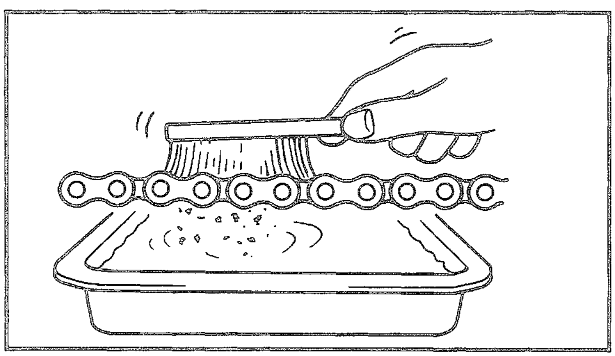


INSPECTION

1. Check:
   - Drive chain stretch

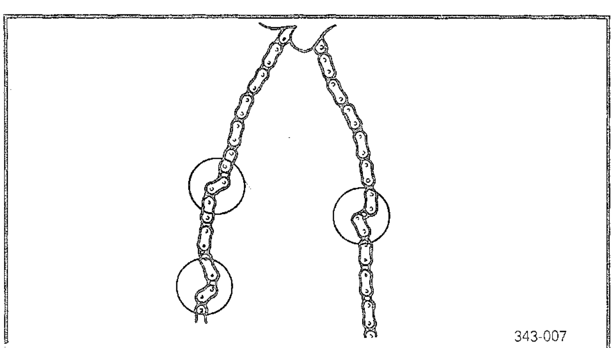
     Pull ② the chain away from the driven sprocket.

     Distance chain/sprocket higher than 1/2 tooth ①→Replace drive chain.



2. Clean:
   - Drive chain

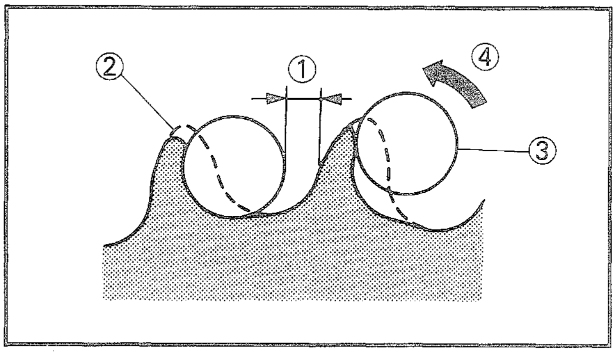
     Place it in solvent, and brush off as much dirt as possible. Then remove the chain from the solvent and dry the chain.



3. Check:
   - Drive chain stiffness

     Clean and oil the chain and hold as illustrated.

     Stiff→Replace drive chain.



4. Inspect:
   - Drive and driven sprockets
     Wear/Damage→Replace.

① 1/4 tooth
② Correct
③ Roller
④ Slip off

Driven sprocket replacement steps:
- Straighten the lock washer tabs and remove the driven sprocket.
- Install a new driven sprocket and lock washers.

WARNING:

Always use new lock washers.

Nut (Driven Sprocket):
35 Nm (3.5 m•kg, 25 ft•lb)

- Bend the lock washer tabs along the nut flats.

INSTALLATION

Reverse the removal steps.
Note the following points.

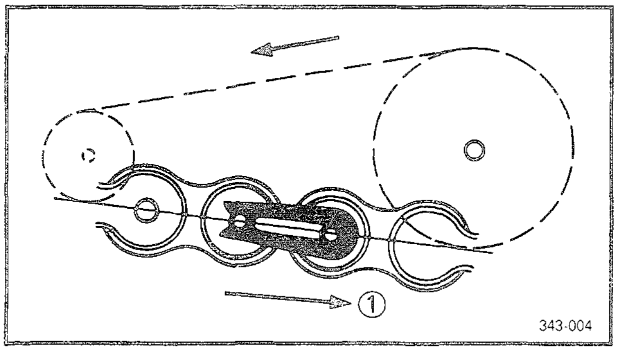
1. Install:
   - Rear wheel
     Refer to "CHAPTER 3—REAR WHEEL INSTALLATION" section.

Nut (Rear Wheel):
60 Nm (6.0 m•kg, 43 ft•lb)
Nut (Tension Bar):
19 Nm (1.9 m•kg, 13 ft•lb)

2. Install:
   - Drive sprocket
   - Circlip

WARNING:

Use a new circlip.



3. Install:
   - Drive chain
   - Joint (Drive chain)
   - Clip (Drive chain)

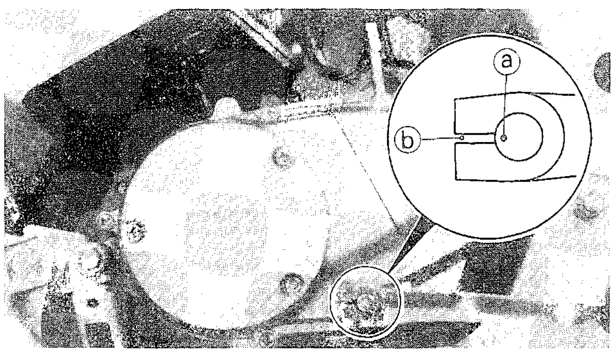
NOTE:
During reassembly, the master link clip must be installed with the rounded end facing the direction of travel.

① Turning direction

4. Lubricate:
   - Drive chain

Chain Lube:
Yamaha Chain Lube or Equivalent

5. Install:
   - Crankcase cover
   - Change pedal

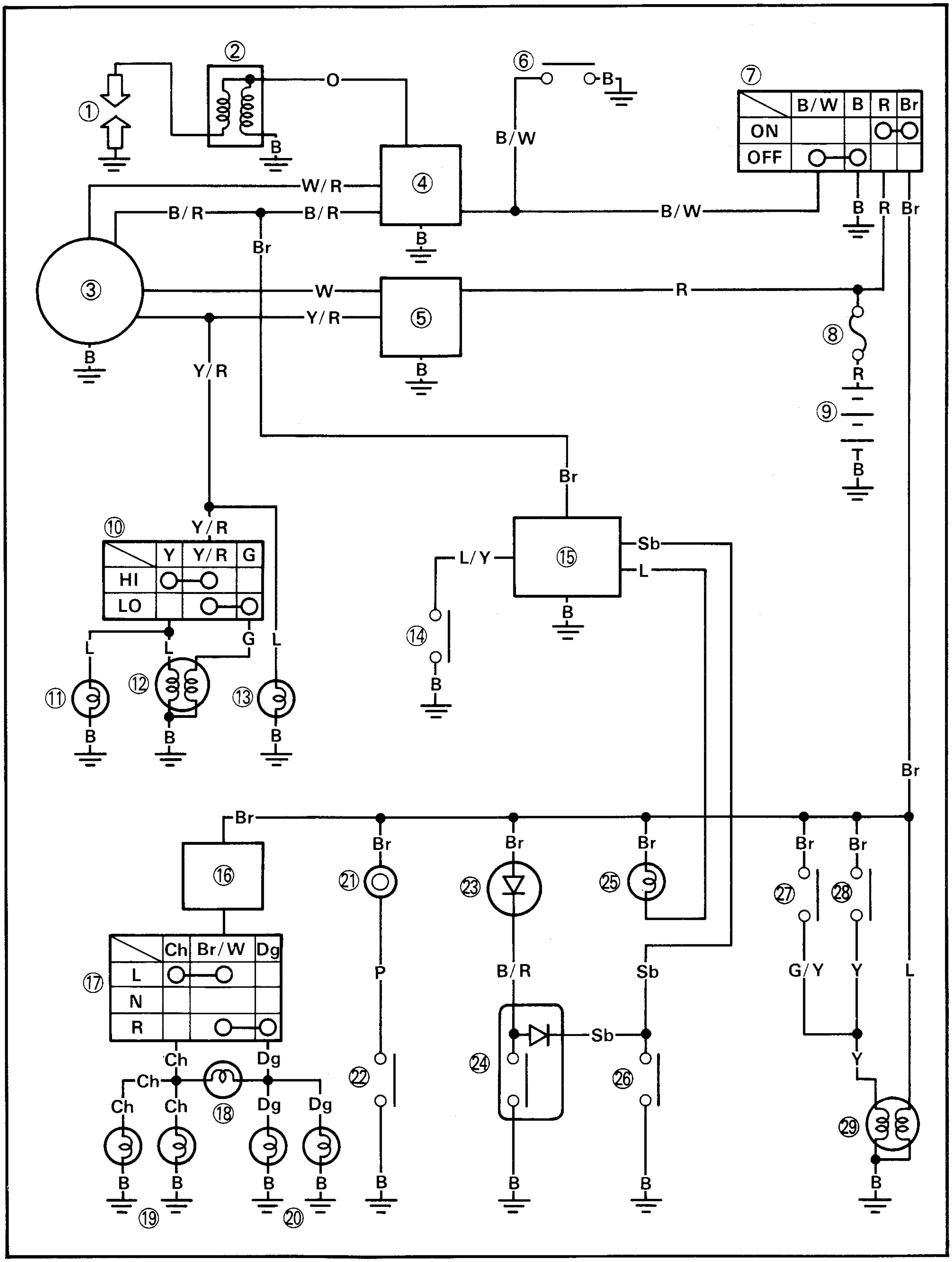


Screw (Crankcase Cover):
8 Nm (0.8 m•kg, 5.8 ft•lb)
Bolt (Change Pedal):
10 Nm (1.0 m•kg, 7.2 ft•lb)

NOTE:
Align the punch mark ⓐ with slit ⓑ.

ELECTRICAL

YSR50T CIRCUIT DIAGRAM



YSR50T CIRCUIT DIAGRAM

① Spark plug
② Ignition coil
③ CDI magneto
④ CDI unit
⑤ Rectifier/Regulator
⑥ "ENGINE STOP" switch
⑦ Main switch
⑧ Fuse
⑨ Battery
⑩ "LIGHTS" (Dimmer) switch
⑪ "HIGH BEAM" indicator light
⑫ Headlight
⑬ Meter light
⑭ Sidestand switch
⑮ Ignition control unit
⑯ Flasher relay
⑰ "TURN" switch
⑱ "TURN" indicator light
⑲ Flasher light (Left)
⑳ Flasher light (Right)
㉑ Horn
㉒ "HORN" switch
㉓ "OIL" warning indicator light
㉔ Oil level switch
㉕ "NEUTRAL" indicator light
㉖ Neutral switch
㉗ Front brake switch
㉘ Rear brake switch
㉙ Tail/Brake light

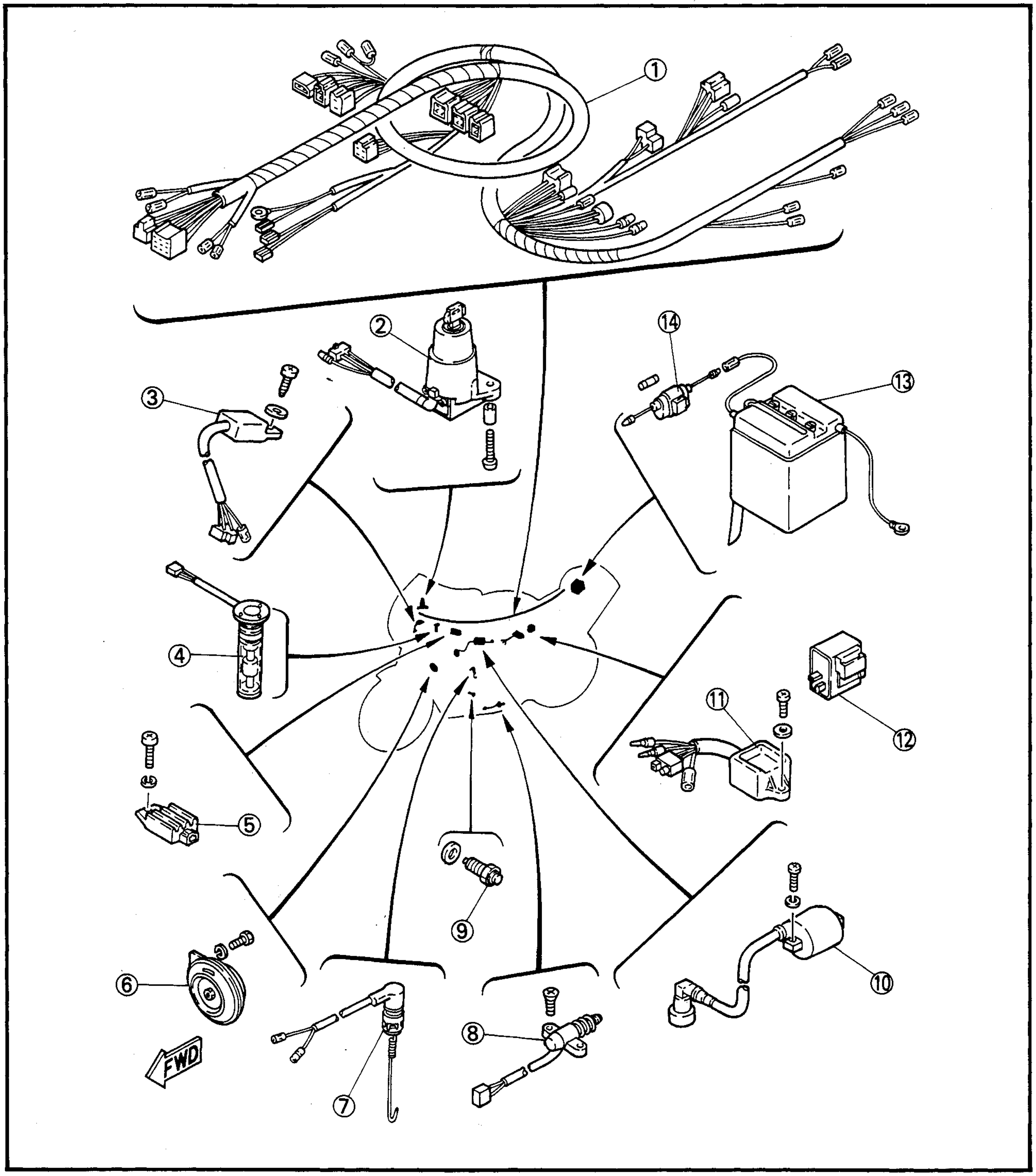
COLOR CODE

B	Black	P	Pink
R	Red	Sb	Sky blue
Br	Brown	B/R	Black/Red
O	Orange	B/W	Black/White
W	White	W/R	White/Red
L	Blue	Br/W	Brown/White
G	Green	G/Y	Green/Yellow
Y	Yellow	Y/R	Yellow/Red
Dg	Dark green	L/Y	Blue/Yellow
Ch	Chocolate		

ELECTRICAL COMPONENTS

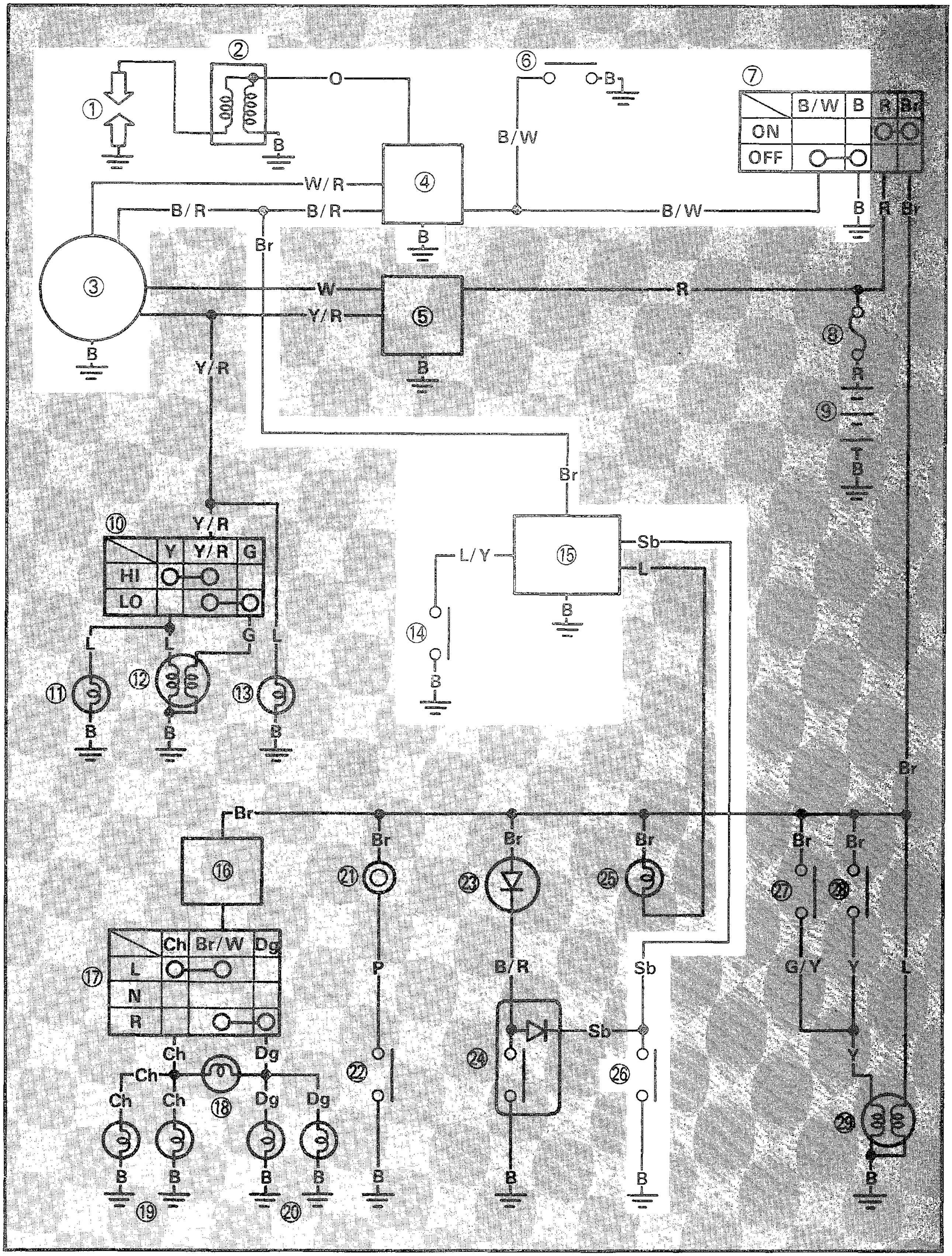
① Wireharness
② Main switch
③ Ignition control unit
④ Oil level switch
⑤ Rectifier/Regulator
⑥ Horn
⑦ Rear brake switch
⑧ Sidestand switch
⑨ Neutral switch
⑩ Ignition coil
⑪ CDI unit
⑫ Flasher relay
⑬ Battery
⑭ Fuse

BATTERY:
CAPACITY 6V 4AH
SPECIFIC GRAVITY 1.280
IGNITION COIL:
PRIMARY COIL
0.7 ~ 1.1Ω at 20°C (68°F)
SECONDARY COIL
5.7 ~ 8.5kΩ at 20°C (68°F)



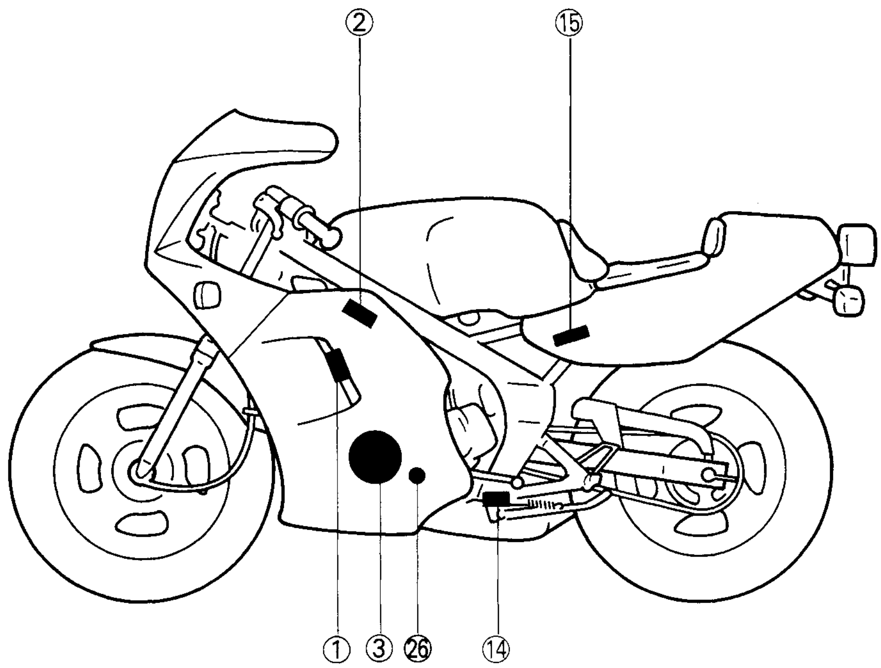
IGNITION AND STARTING SYSTEM

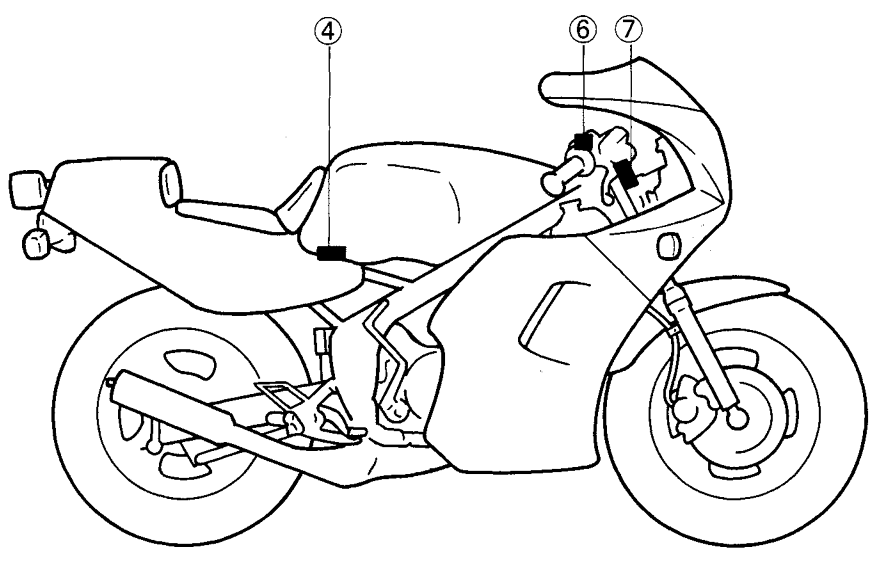
Below circuit diagram shows ignition and starting system.



NOTE:
For the color codes, see page 7-2.

① Spark plug
② Ignition coil
③ CDI magneto
④ CDI unit
⑥ "ENGINE STOP" switch
⑦ Main switch
⑭ Sidestand switch
⑮ Ignition control unit
㉖ Neutral switch



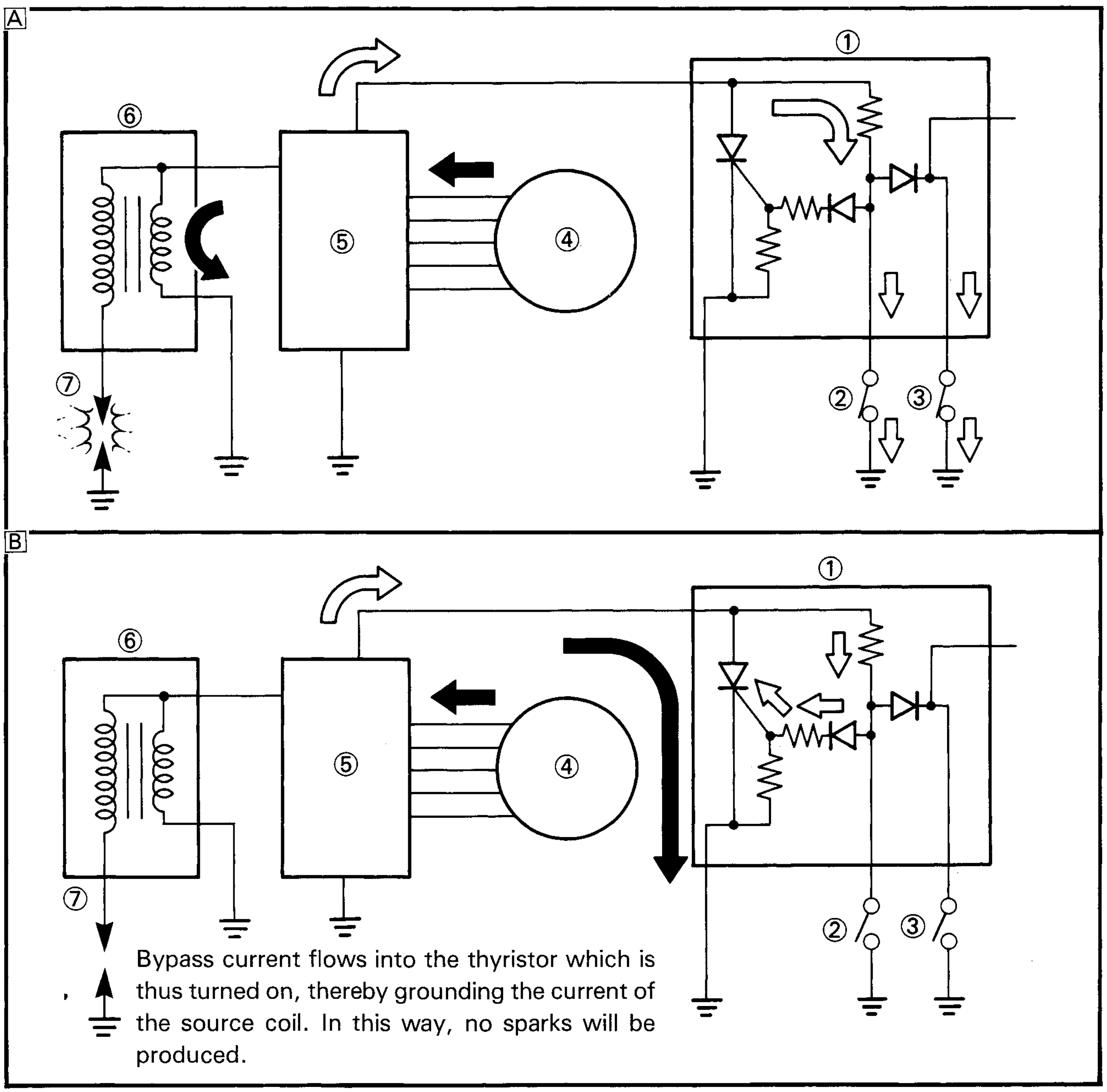


IGNITION CONTROL CIRCUIT OPERATION

The ignition control circuit on this model consists of the ignition control unit, neutral switch, neutral indicator light, and the sidestand switch. If the engine stop switch and the main switch are both on, the ignition spark can produce only if:

1. The transmission is in neutral (the neutral switch is on).
2. The sidestand is up (the sidestand switch is on).

	Transmission (Neutral switch)	Sidestand (Sidestand switch)	Spark plug
A	Neutral (close)	Up (close)	Spark
A	Neutral (close)	Down (open)	Spark
A	IN gear (open)	Up (close)	Spark
B	IN gear (open)	Down (open)	No spark



① Ignition control unit
② Sidestand switch
③ Neutral switch
④ CDI magneto
⑤ CDI unit
⑥ Ignition coil
⑦ Spark plug
⑧ Thyristor

⇦ Bypass current
⬅ Current of source coil

TROUBLESHOOTING

IF IGNITION SYSTEM SHOULD BECOME INOPERATIVE (NO SPARK OR INTERMITTENT SPARK).

Procedure (1)

Check;

1. Spark plug
2. Ignition spark gap
3. Ignition circuit
4. Main switch
5. Spark plug cap resistance
6. "ENGINE STOP" switch
7. Ignition coil resistance
8. Pick-up coil resistance
9. Source coil resistance
10. Wiring connection (Entire ignition system)

NOTE:

- Remove the following parts before troubleshooting.
  1) Lower cowling
  2) Upper cowling
  3) Seat
  4) Side cover
  5) Fuel tank
- Use the following special tool(s) in this troubleshooting.

Coil Tester:
YU-33261

Pocket Tester:
YU-03112

---

1. Spark plug

- Check the spark plug condition.
- Check the spark plug type.
- Check the spark plug gap.

Refer to the "SPARK PLUG INSPECTION" section in the CHAPTER 3.

Standard Spark Plug:
B7HS (N.G.K.), B8HS (N.G.K.)

Spark Plug Gap:
0.5 ~ 0.6 mm (0.20 ~ 0.24 in)

INCORRECT → Repair or replace spark plug.

CORRECT ↓

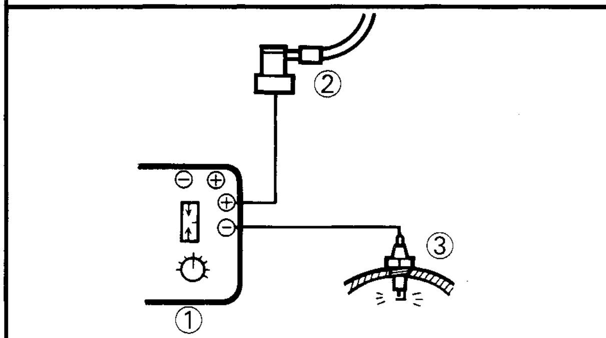
*

*

2. Ignition spark gap

- Connect the Coil Tester ① as shown.

② Spark plug cap
③ Spark plug



- Start the engine, and increase the spark gap until misfire occurs.

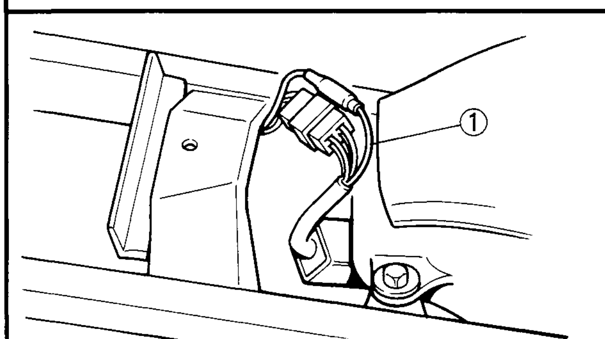
Minimum Spark Gap:
6 mm (0.24 in)

MEETS SPECIFICATION → Ignition system is good.

OUT OF SPECIFICATION OR NO SPARK ↓

3. Ignition circuit

- Disconnect the ignition control unit lead ① (Brown).
- Start the engine.



ENGINE STARTS (SPARK) → Starting circuit is faulty, go to "Procedure (2)".

ENGINE DOES NOT START ↓

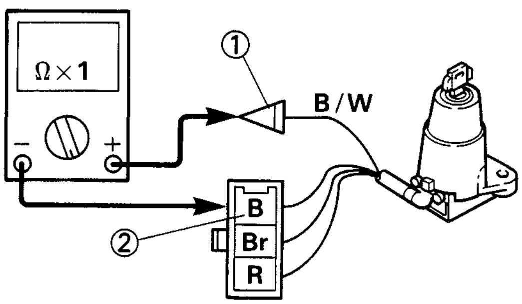
*

*

4. Main switch

- Disconnect the main switch coupler (Red, Brown and Black) and lead (Black/White) from the wireharness.
- Connect the Pocket Tester (Ω×1) to the main switch.

Tester (+) Lead→Black/White ① Lead
Tester (−) Lead→Black ② Lead.



- Turn the main switch to "ON" and "OFF".
- Check the main switch for continuity.

Switch position	Good condition	Bad condition		
OFF	○	×	×	○
ON	×	○	×	○

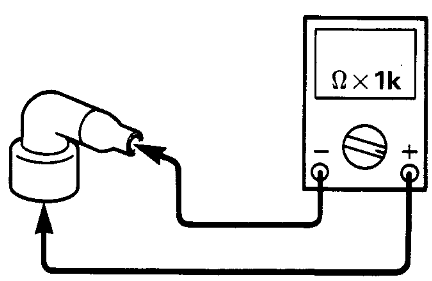
○: Continuity ×: Nocontinuity

BAD CONDITION → Main switch is faulty, replace it.

GOOD CONDITION

5. Spark plug cap resistance

- Remove the spark plug cap.
- Connect the pocket Tester (Ω×1k) to the spark plug cap.



- Check the spark plug cap for specificated resistance.

Spark Plug Cap Resistance:
4~6kΩ at 20°C (68°F)

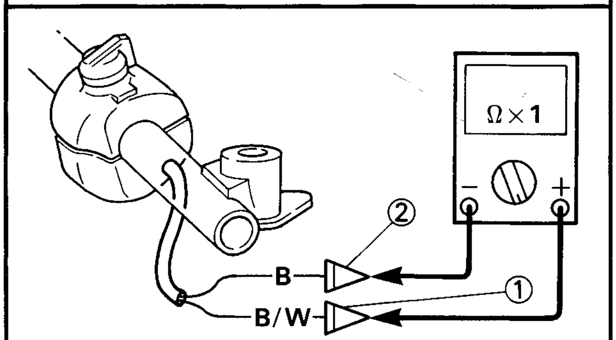
OUT OF SPECIFICATION → Spark plug cap is faulty, replace it.

MEETS SPECIFICATION

6. "ENGINE STOP" switch

- Disconnect the "ENGINE STOP" switch leads (Black/White and Black) from the wire-harness.
- Connect the Pocket Tester (Ω×1) to the "ENGINE STOP" switch.

Tester (+) Lead→Black/Whie ① Lead
Tester (−) Lead→Black ② Lead



- Turn the "ENGINE STOP" switch to "OFF" and "RUN".
- Check the "ENGINE STOP" switch for continuity.

Switch position	Good condition	Bad condition		
RUN	×	○	×	○
OFF	○	×	×	○

○: Continuity ×: Nocontinuity

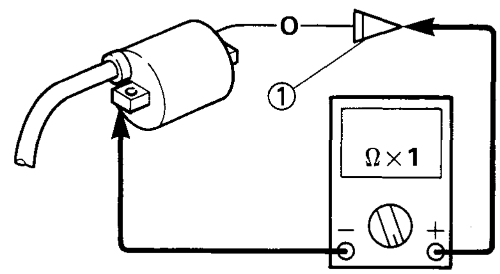
BAD CONDITION → "ENGINE STOP" switch is faulty, replace it.

GOOD CONDITION

7. Ignition coil resistance

- Disconnect the ignition coil lead (Orange) from the wireharness.
- Connect the Pocket Tester (Ω×1) to the ignition coil.

Tester (+) Lead→Orange ① Lead
Tester (−) Lead→Ignition Coil Base

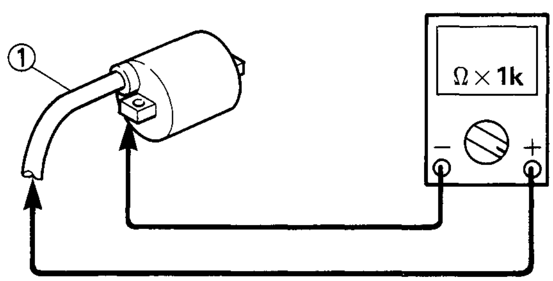


- Check the primary coil for specificated resistance.

Primary Coil Resistance:
0.7~1.1Ω at 20°C (68°F)
(Orange—Coil Base)

- Connect the Pocket Tester (Ω×1k) the ignition coil.

Tester (+) Lead→Spark Plug Lead ①
Tester (−) Lead→Ignition Coil Base



- Check the secondary coil for specificated resistance.

Secondary Coil Resistance:
5.7~8.5kΩ at 20°C (68°F)
(Spark Plug Lead—Coil Base)

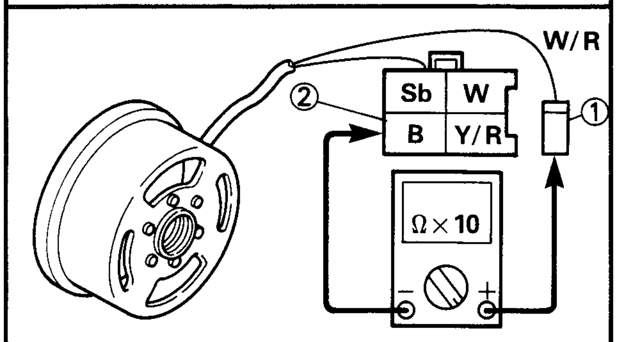
OUT OF SPECIFICATION → Ignition coil is faulty, replace it.

BOTH MEET SPECIFICATIONS ↓

8. Pickup coil resistance

- Disconnect the CDI magneto lead (White/Red) and coupler (Sky blue, White, Black and Yellow/Red) from the wireharness.
- Connect the Pocket Tester (Ω×10) to the pickup coil leads.

Tester (+) Lead→White/Red ① Lead
Tester (–) Lead→Black ② Lead



- Check the pickup coil for specificated resistance.

Pickup Coil Resistance:
16~24Ω at 20°C (68°F)
(White/Red–Black)

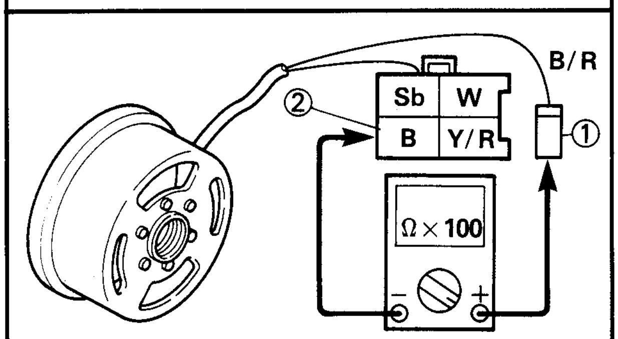
OUT OF SPECIFICATION → Pickup coil is faulty, replace it.

MEETS SPECIFICATION ↓

9. Source coil resistance

- Disconnect the CDI magneto lead (Black/Red) and coupler (Sky blue, White, Black and Yellow/Red) from the wireharness.
- Connect the Pocket Tester (Ω×100) to the source coil leads.

Tester (+) Lead→Black/Red ① Lead
Tester (–) Lead→Black ② Lead



- Check the source coil for specificated resistance.

Source Coil Resistance:
264~396Ω at 20°C (68°F)
(Black/Red–Black)

OUT OF SPECIFICATION → Source coil is faulty, replace it.

MEETS SPECIFICATION ↓
*

*

10. Wiring connection
Check the entire ignition system for connections. Refer to the "WIRING DIAGRAM" section.

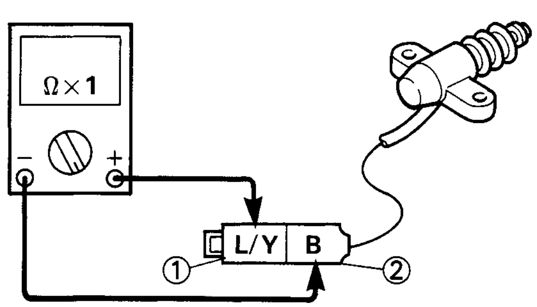
POOR CONNECTION → Correct.

CORRECT ↓

CDI unit is faulty, replace it.

Procedure (2)
Check;
1. Sidestand switch
2. Neutral switch
3. Wiring connection
   (Entire starting system)

1. Sidestand switch
•Disconnect the sidestand switch coupler (Blue/Yellow and Black) from the wireharness. •Connect the Pocket Tester (Ω × 1) to the sidestand switch.
Tester (+) Lead→Blue/Yellow ① Lead **Tester (−) Lead→Black ② Lead**



- Move the sidestand to up position and down position.
- Check the sidestand switch for continuity.

Sidestand position	Good condition	Bad condition		
Up	○	×	×	○
Down	×	○	×	○

○: Continuity ×: Nocontinuity

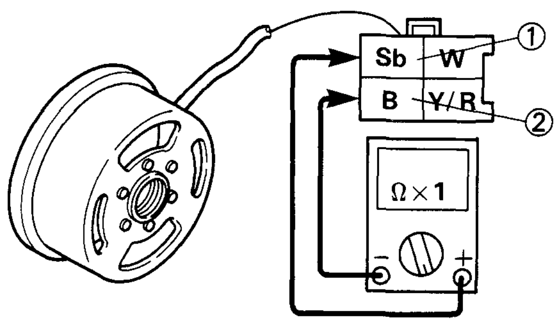
BAD CONDITION → Sidestand switch is faulty, replace it.

GOOD CONDITION ↓

2. Neutral switch

- Disconnect the CDI magneto coupler (Sky blue, White, Black and Yellow/Red) from the wireharness.
- Connect the Pocket Tester (Ω×1) to the neutral switch leads.

Tester (+) Lead→Sky blue ① Lead
Tester (−) Lead→Black ② Lead.



- Shift the transmission in neutral and gear.
- Check the neutral switch for continuity.

Transmission position	Good condition	Bad condition		
Neutral	○	×	×	○
Gear	×	○	×	○

○: Continuity ×: Nocontinuity

BAD CONDITION → Neutral switch is faulty, replace it.

GOOD CONDITION ↓

*

*

3. Wiring connection

Check the entire starting system for connections. Refer to the "WIRING DIAGRAM" section.

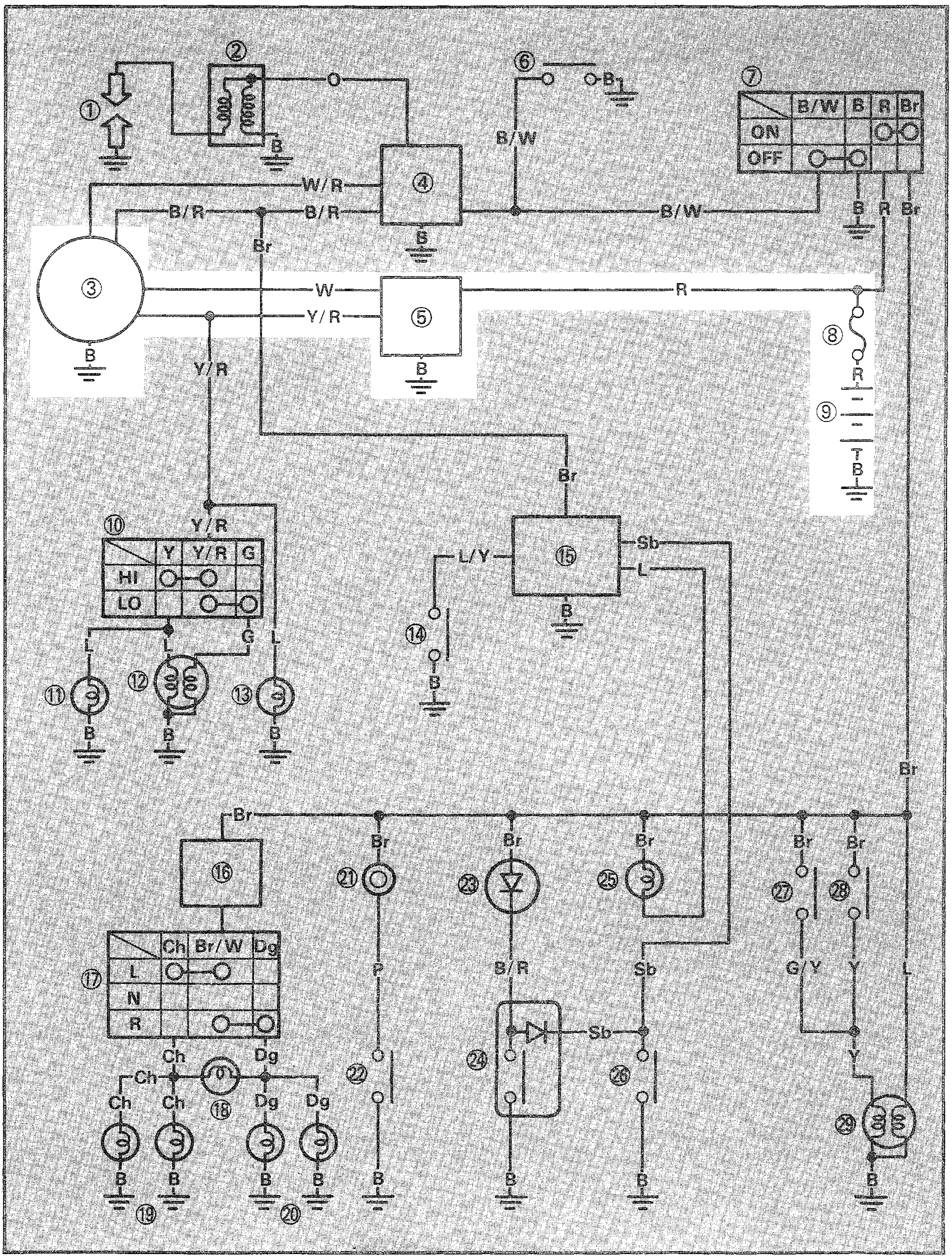
POOR CONNECTION → Correct.

CORRECT ↓

Ignition control unit is faulty, replace it.

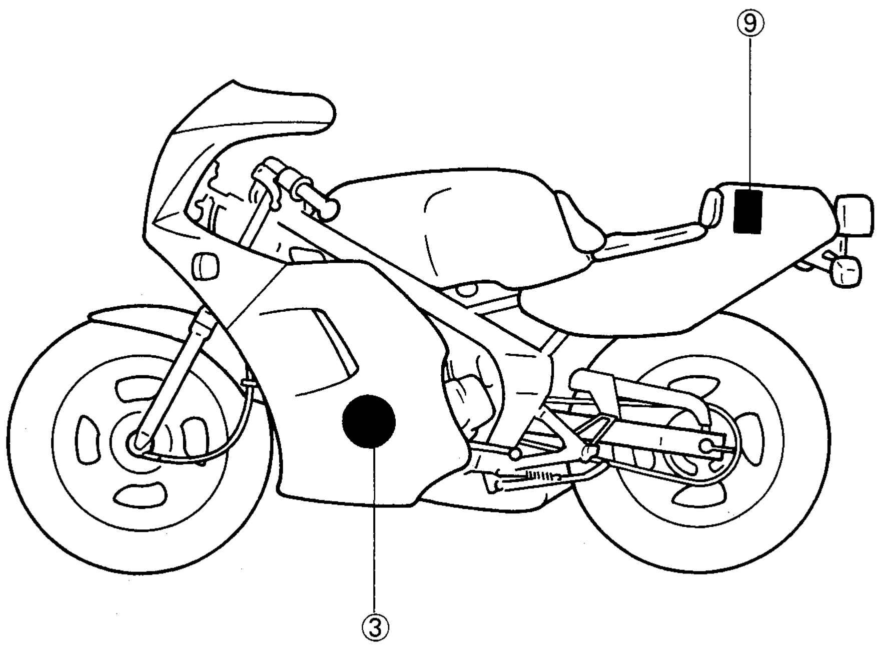
CHARGING SYSTEM

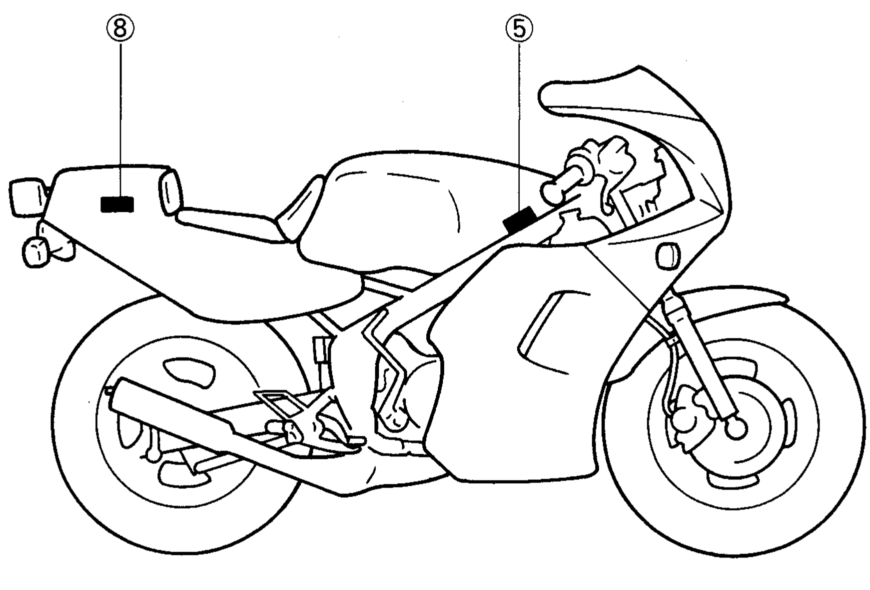
Below circuit diagram shows charging system.



NOTE:
For the color codes, see page 7-2.

③ CDI magneto
⑤ Rectifier/Regulator
⑧ Fuse
⑨ Battery





TROUBLESHOOTING

THE BATTERY IS NOT CHARGED.

Procedure

Check;

1. Fuse
2. Battery
3. Charging voltage
4. Charging coil resistance
5. Wiring connection (Charging system)

NOTE:

- Remove the following parts before troubleshooting.
  1) Side cover
- Use the following special tool(s) in this troubleshooting.

Inductive Tachometer:
YU-08036

Pocket Tester:
YU-03112

---

1. Fuse

- Connect the Pocket Tester ("Ω×1") to the fuse.
- Check the fuse for continuity.

NOCONTINUITY → Replace fuse.

↓ CONTINUTY

2. Battery

- Check the battery condition. Refer to "CHAPTER 3. BATTERY INSPECTION".

Specific Gravity:
1.280 at 20°C (68°F)

INCORRECT →
- Refill battery fluid.
- Clean battery terminals.
- Recharge or replace battery.

↓ CORRECT

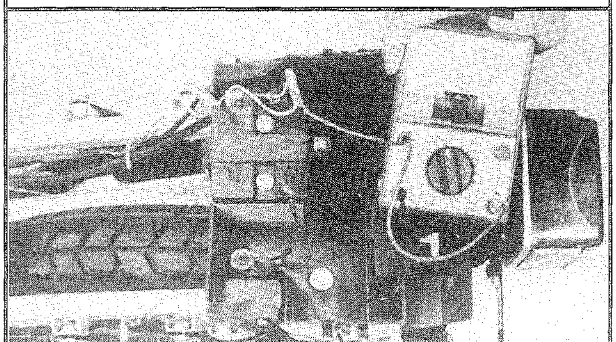
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*

3. Charging voltage

- Connect the Engine Tachometer to the spark plug lead.
- Connect the Pocket Tester (DC20V) to the battery.

Tester (+) Lead→Battery (+) Terminal
Tester (−) Lead→Battery (−) Terminal



- Start the engine and accelerate to about 5.000 r/min.
- Check charging voltage.

Charging Voltage:
7.4~8.2V at 5,000 r/min

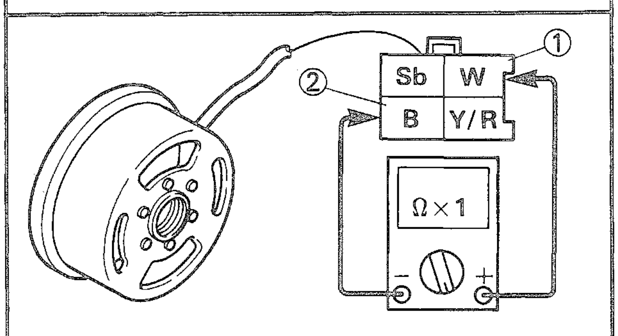
MEETS SPECIFICATION → Charging system is good.

OUT OF SPECIFICATION

4. Charging coil resistance

- Disconnect the CDI magneto coupler (Sky blue, White, Black and Yellow/Red) from the wireharness.
- Connect the Pocket Tester (Ω×1) to the charging coil leads.

Tester (+) Lead→White ① Lead
Tester (−) Lead→Black ② Lead



- Check the charging coil for specificated resistance.

Charging Coil Resistance:
0.24 ~ 0.36Ω at 20°C (68°F)
(White – Black)

OUT OF SPECIFICATION → Charging coil is faulty, replace it.

MEETS SPECIFICATION ↓

5. Wiring connection

Check the entire charging system for connections. Refer to the "WIRING DIAGRAM" section.

POOR CONNECTION → Correct.

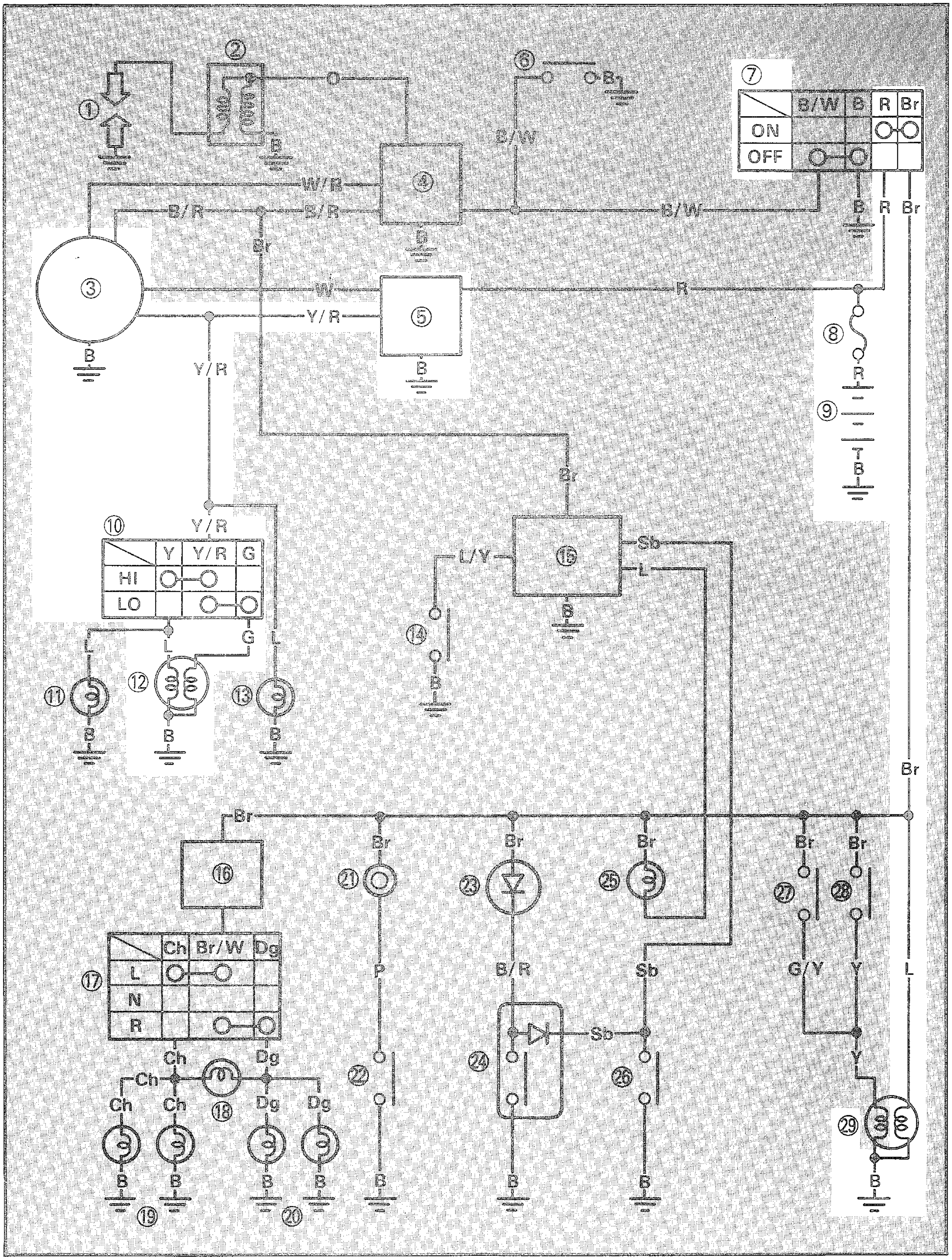
CORRECT ↓

Rectifier/Regulator is fautly, replace it.

MEMO

LIGHTING SYSTEM

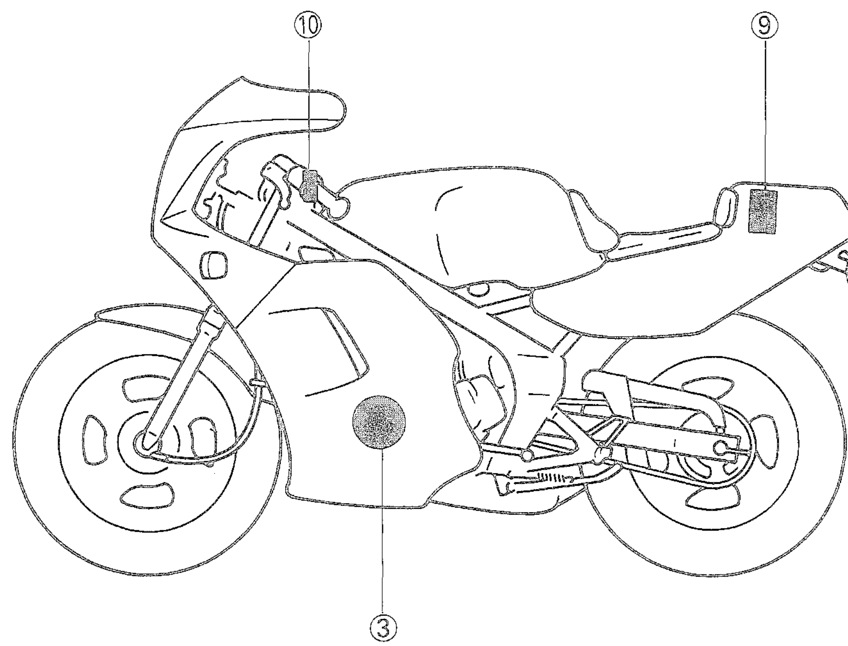
Below circuit diagram shows lighting system.

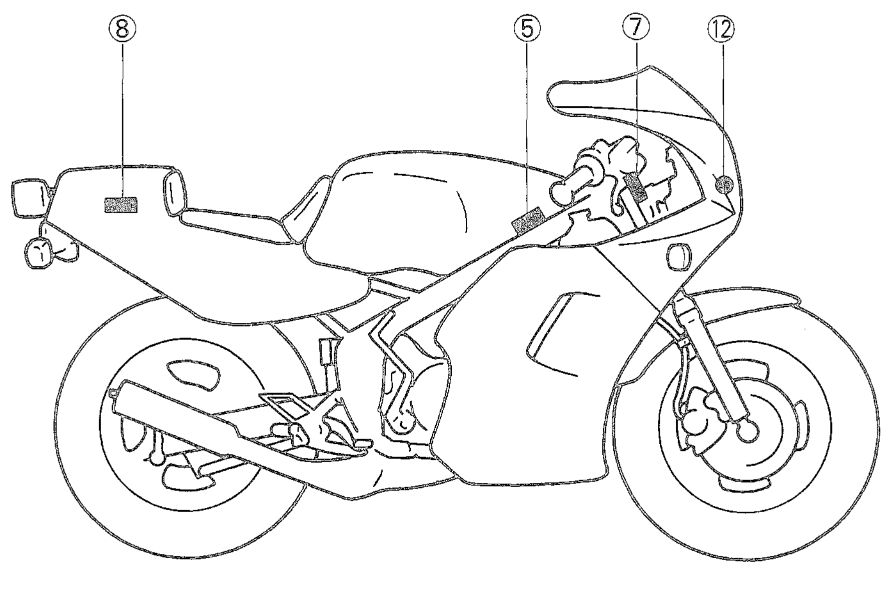


NOTE:

For the color codes, see page 7-2.

③ CDI magneto
⑤ Rectifier/Regulator
⑦ Main switch
⑧ Fuse
⑨ Battery
⑩ "LIGHTS" (Dimmer) switch
⑫ Headlight
㉙ Tail/Brake light





TROUBLESHOOTING (1)

HEADLIGHT DOES NOT COME ON.

Procedure

Check;
1. Headlight
2. "LIGHTS" (Dimmer) switch
3. Lighting circuit output
4. Lighting coil resistance
5. Wiring connection

NOTE:

- Remove the following parts before troubleshooting.
  1) Seat
  2) Side cover
- Use the following special tool(s) in this troubleshooting.

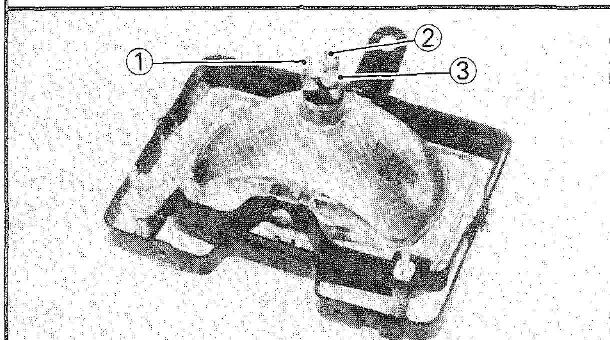
Pocket Tester: YU-03112	Inductive Tachometer: YU-08036

1. Headlight

- Connect the Pocket Tester (Ω×1k) to the headlight.

Tester (+) Lead→Terminal ①
Tester (−) Lead→Terminal ③

Tester (+) Lead→Terminal ②
Tester (−) Lead→Terminal ③



- Check the headlight for continuity.

CONTINUITY DOES NOT EXIST ON ONE CIRCUIT. → Headlight is faulty, replace it.

CONTINUITY EXISTS ON BOTH CIRCUITS.

*

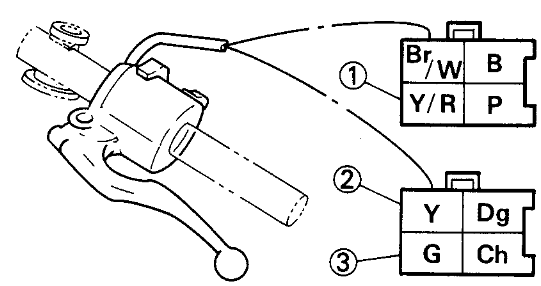
*

2. "LIGHTS" (Dimmer) switch

- Disconnect the handlebar switch couplers [(Chocolate, Green, Dark green and Yellow) (Black, Pink, Yellow/Red and Brown/White)] from the wireharness.
- Connect the Pocket Tester (Ω×1) to the "LIGHTS" (Dimmer) switch leads.

When turning "LIGHTS" (Dimmer) switch to "HI".
Tester (+) Lead→Yellow/Red ① Lead
Tester (−) Lead→Yellow ② Lead

When turning "LIGHTS" (Dimmer) switch to "LO".
Tester (+) Lead→Yellow/Red ① Lead
Tester (−) Lead→Green ③ Lead



- Turn the "LIGHTS" (Dimmer) switch to the "HI" and "LO".
- Check the "LIGHTS" (Dimmer) switch for continuity.

Switch position	Good condition	Bad condition		
HI	○	×	○	×
LO	○	○	×	×

○: Continuity ×: Nocontinuity

BAD CONDITION

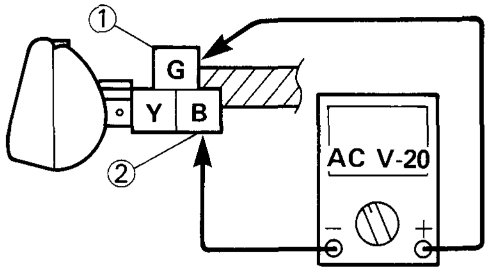
"LIGHTS" (Dimmer) switch is faulty, replace handlebar switch.

GOOD CONDITION

3. Lighting circuit output

- Turn the "LIGHTS" (Dimmer) switch to "LO".
- Connect the Pocket Tester (AC V-20) to the headlight leads.

Tester (+) Lead→Green ① Lead
Tester (−) Lead→Black ② Lead



- Connect the Inductive Tachometer to the spark plug lead.
- Start the engine and check the output voltage.

CAUTION:

Do not run the engine in neutral above 6,000 r/min for more than 1 or 2 seconds.

Standard Output:
6.2~7.2V at 3,000 r/min or more

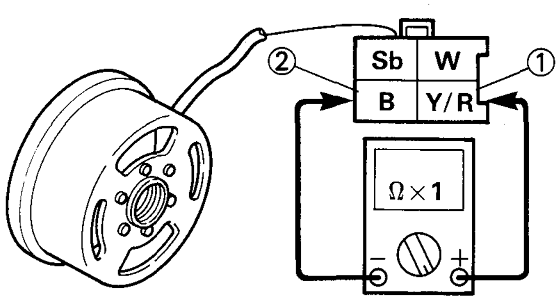
MEETS SPECIFICATION → Lighting system is good.

OUT OF SPECIFICATION ↓

4. Lighting coil resistance

- Disconnect the CDI magneto coupler (Sky blue, White, Black and Yellow/Red) from the wireharness.
- Connect the Pocket Tester (Ω×1) to the lighting coil leads.

Tester (+) Lead→Yellow/Red ① Lead
Tester (−) Lead→Black ② Lead



- Check the lighting coil for specificated resistance.

Lighting Coil Resistance:
0.16 ~ 0.24Ω at 20°C (68°F)
(Yellow/Red — Black)

OUT OF SPECIFICATION → Lighting coil is faulty, replace it.

MEETS SPECIFICATION ↓

5. Wiring connection

Check the entire lighting system for connections. Refer to the "WIRING DIAGRAM" section.

POOR CONNECTION → Correct.

CORRECT ↓

Rectifier/Regulator is faulty, replace it.

TROUBLESHOOTING (2)

TAILLIGHT DOES NOT COME ON.

Procedure

1. Fuse
2. Battery
3. Tail/Brake light bulb
4. Main switch
5. Wiring connection

NOTE:

- Remove the following parts before troubleshooting.
  1) Seat
  2) Side cover
- Use the following special tool(s) in this troubleshooting.

Pocket Tester:
YU-03112

1. Fuse

- Remove the fuse.
- Connect the Pocket Tester (Ω × 1) to the fuse.
- Check the fuse for continuity.

NOCONTINUITY → Fuse if faulty, replace it.

CONTINUITY ↓

*

*

2. Battery

- Check the battery condition. Refer to the "BATTERY INSPECTION" section in the CHAPTER 3.

Specific Gravity:
1.280 at 20°C (68°F)

INCORRECT

- Refill battery fluid.
- Clean battery terminals.
- Recharge or replace battery.

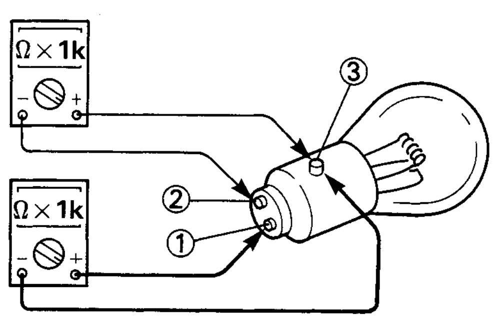
CORRECT

3. Tail/Brake light bulb

- Remove the tail/brake light bulb.
- Connect the Pocket Tester (Ω×1k) to the tail/brake light bulb.

Tester (+) Lead→Terminal ①
Tester (−) Lead→Terminal ③

Tester (+) Lead→Terminal ②
Tester (−) Lead→Terminal ③



- Check the tail/brake light bulb for continuity.

CONTINUITY DOES NOT EXIST ON ONE CIRCUIT.

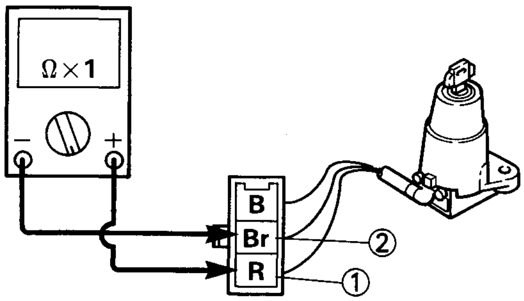
Tail/Brake light bulb is faulty, replace it.

CONTINUITY EXISTS ON BOTH CIRCUITS.

4. Main switch

- Disconnect the main switch coupler (Red, Brown and Black) from the wireharness.
- Connect the Pocket Tester (Ω×1) to the main switch leads.

Tester (+) Lead→Red ① Lead
Tester (−) Lead→Brown ② Lead



•Turn the main switch to "ON" and "OFF".
•Check the main switch for continuity.

Switch position	Good condition	Bad condition		
ON	○	×	×	○
OFF	×	○	×	○

○: **Continuity** ×: **Nocontinuity**

BAD CONDITION → Main switch is faulty, replace it.

GOOD CONDITION ↓

5. Wiring connection

Check the entire lighting system for connections. Refer to the "WIRING DIAGRAM" section.

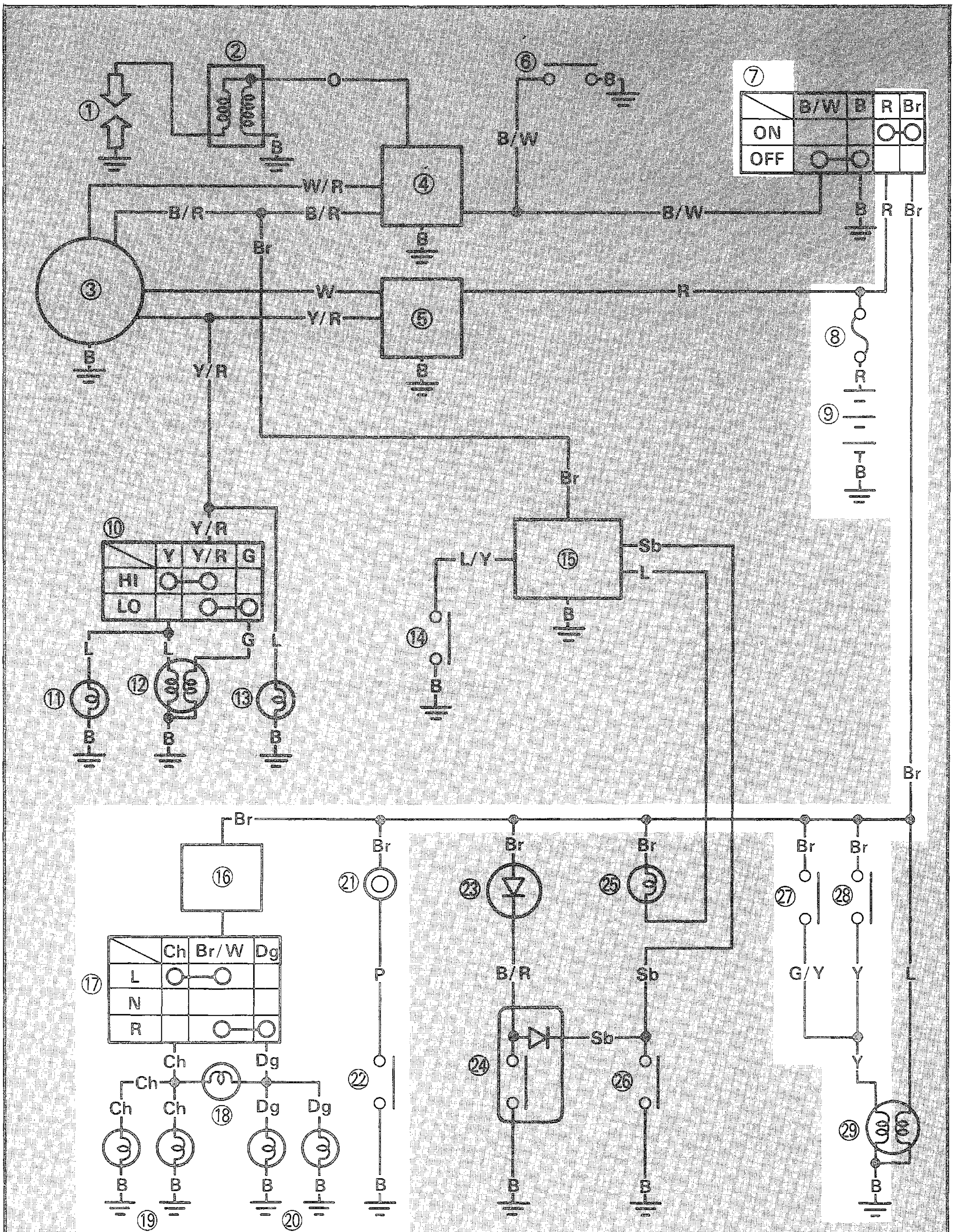
INCORRECT → Correct.

CORRECT ↓

Tail/Brake light bulb socket is faulty, replace tail/brake light assembly.

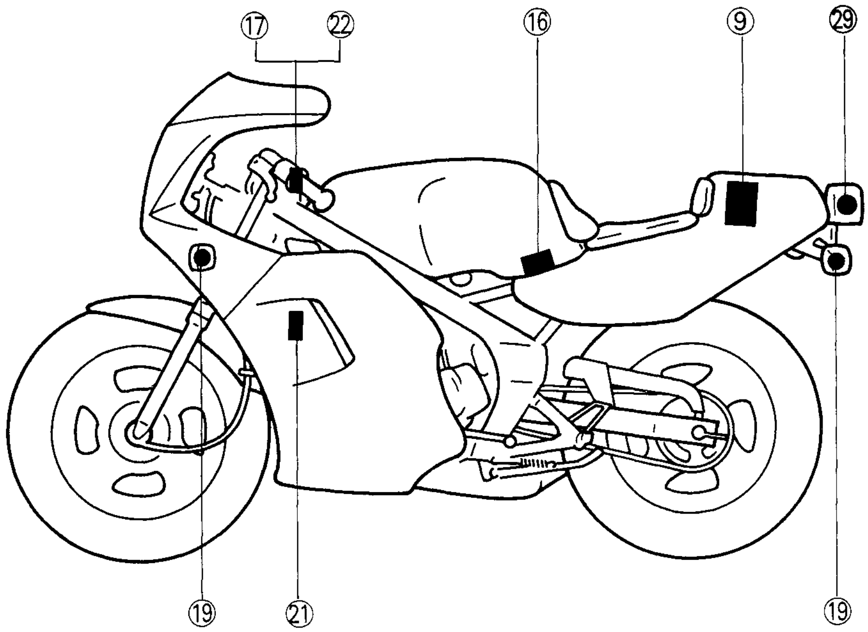
SIGNAL SYSTEM

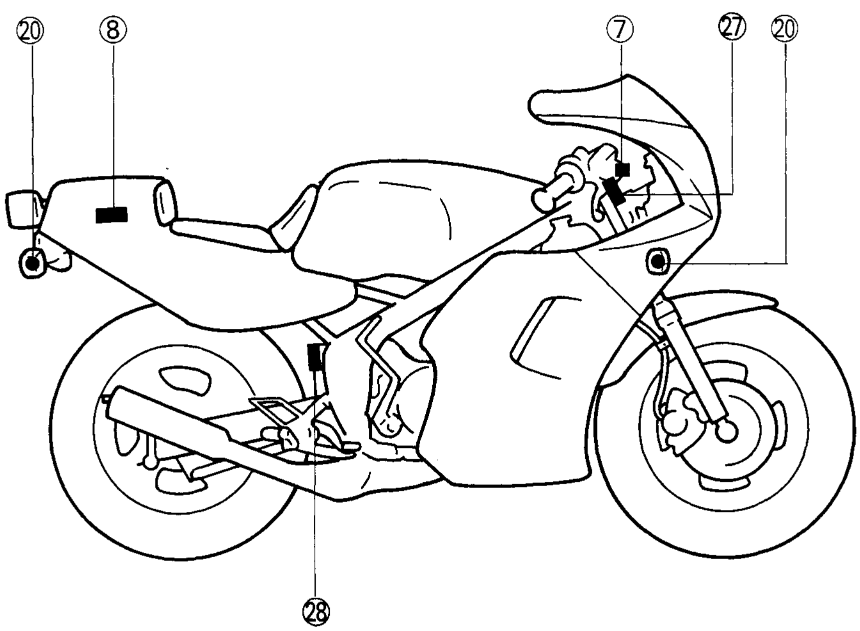
Below circuit diagram shows signal system.



NOTE:
For the color code, see page 7-2.

⑦ Main switch
⑧ Fuse
⑨ Battery
⑯ Flasher relay
⑰ "TURN" switch
⑲ Flasher light (Left)
⑳ Flasher light (Right)
㉑ Horn
㉒ "HORN" switch
㉗ Front brake switch
㉘ Rear brake switch
㉙ Tail/Brake light





TROUBLESHOOTING

FLASHER LIGHT, BRAKE LIGHT AND/OR HORN DO NOT OPERATE.

Procedure

Check;
1) Fuse
2) Battery
3) Main switch
4) Wiring connection

NOTE:

- Remove the following parts before troubleshooting.
  1) Seat
  2) Side cover
- Use the following special tool(s) in this troubleshooting.

Pocket Tester:
YU-03112

---

1. Fuse

- Remove the fuse.
- Connect the Pocket Tester ($\Omega \times 1$) to the fuse.
- Check the fuse for continuity.

NOCONTINUITY → Fuse is faulty, replace it.

CONTINUITY ↓

2. Battery

- Check the battery condition. Refer to the "BATTERY INSPECTION" section in the CHAPTER 3.

Specific Gravity:
1.280 at 20°C (68°F)

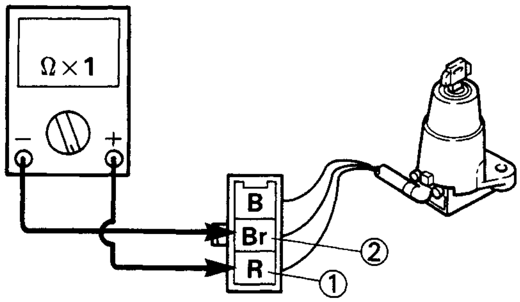
INCORRECT →
- Refill battery fluid.
- Clean battery terminals.
- Recharge or replace battery.

CORRECT ↓

3. Main switch

- Disconnect the main switch coupler (Red, Brown and Black) from the wireharness.
- Connect the Pocket Tester ($\Omega \times 1$) to the main switch leads.

Tester (+) Lead→Red ① Lead
Tester (−) Lead→Brown ② Lead



- Turn the main switch to "ON" and "OFF".
- Check the main switch for continuity.

Switch position	Good condition	Bad condition		
ON	○	×	×	○
OFF	×	○	×	○

○: **Continuity** ×: **Nocontinuity**

BAD CONDITION → Main switch is faulty, replace it.

GOOD CONDITION ↓

4. Wiring connection

Check the entire signal system for connections.
Refer to the "WIRING DIAGRAM" section.

INCORRECT → Correct.

CORRECT ↓

Go to the "SIGNAL SYSTEM TEST AND CHECK" section.

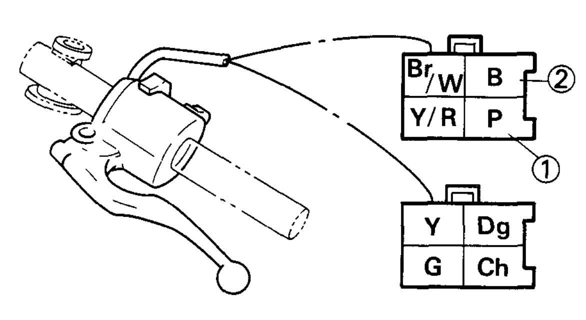
SIGNAL SYSTEM TEST AND CHECK

1. Horn does not sound, when pushing "HORN" switch.

1. "HORN" switch check

- Disconnect the handlebar switch couplers [(Brown/White, Yellow/Red, Black and Pink) (Yellow, Green, Dark green and Chocolate)] from the wireharness.
- Connect the Pocket Tester (Ω×1) to the "HORN" switch.

Tester (+) Lead→Pink ① Lead
Tester (−) Lead→Black ② Lead



- Check the "HORN" switch for contintity.

Switch position	Good condition	Bad condition		
"HORN" switch is pushed.	○	×	×	○
"HORN" switch is not pushed	×	○	×	○

○: Continuity ×: Nocontinuity

BAD CONDITION

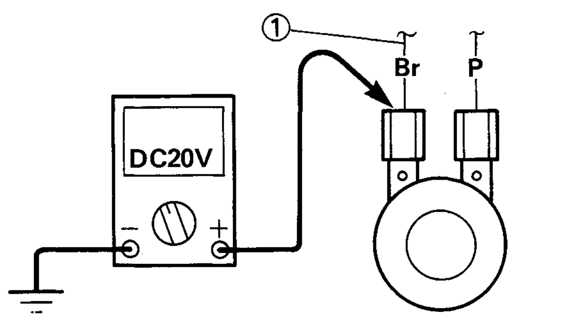
"HORN" switch is faulty, replace handlebar switch.

GOOD CONDITION

2. Voltage check

- Connect the Pocket Tester (DC20V) to the horn at the brown terminal.

Tester (+) Lead→Brown ① Lead
Tester (−) Lead→Frame Ground



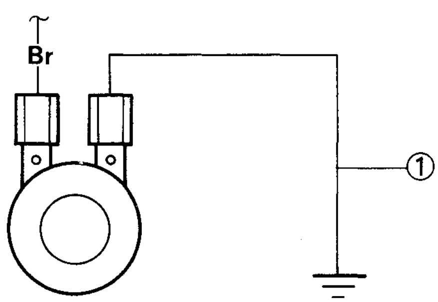
- Check for voltage (6V) on the "Brown" lead at the horn terminal.

OUT OF SPECIFICATION → Wiring circuit from main switch to horn terminal is faulty, repair.

MEETS SPECIFICATION (6V)

3. Horn check

- Disconnect the "Pink" lead at the horn terminal.
- Connect a jumper lead ① to the horn terminal and ground the jumper lead.



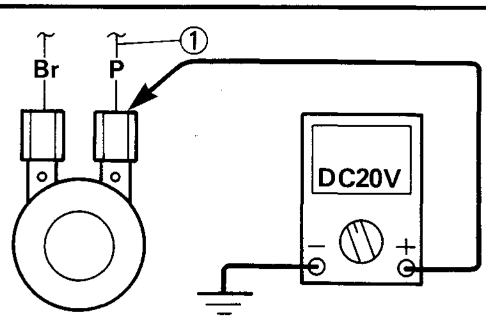
HORN IS SOUNDED → Horn is good.

HORN IS NOT SOUNDED

4. Voltage check

- Connect the Pocket Tester (DC20V) to the horn at the Pink terminal.

Tester (+) Lead→Pink ① Lead
Tester (−) Lead→Frame Ground



- Check for voltage (6V) on the "Pink" lead at the horn terminal.

OUT OF SPECIFICATION → Horn is faulty, replace it.

MEETS SPECIFICATION (6V) ↓

Adjust or replace horn.

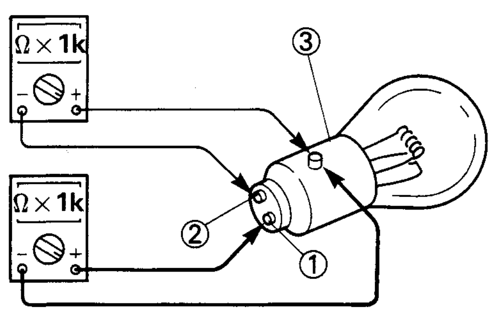
2. Brake light does not come on when applying rear or front brake.

1. Bulb check

- Remove the tail/brake light bulb.
- Connect the Pocket Tester (Ω×1k) to the bulb.

Tester (+) Lead→Terminal ①
Tester (−) Lead→Terminal ③

Tester (+) Lead→Terminal ②
Tester (−) Lead→Terminal ③



- Check the bulb for continuity.

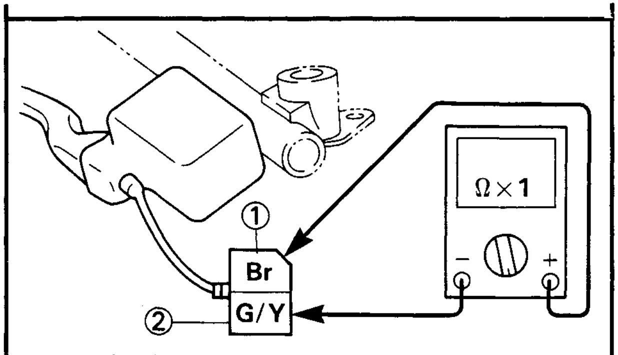
CONTINUITY DOES NOT EXIST ON ONE CIRCUIT → Tail/Brake light bulb is faulty, replace it.

CONTINUITY EXISTS ON BOTH CIRCUITS ↓

2. Front brake switch check

- Disconnect the front brake switch coupler (Brown and Green/Yellow) from the wire-harness.
- Connect the Pocket Tester (Ω×1) to the brake switch leads.

Tester (+) Lead→Brown ① Lead
Tester (−) Lead→Green/Yellow ② Lead



• Check the brake switch for continuity.

Switch position	Good condition	Bad condition		
Front brake is applied.	○	×	×	○
Front brake is not applied	×	○	×	○

○: Continuity ×: Nocontinuity

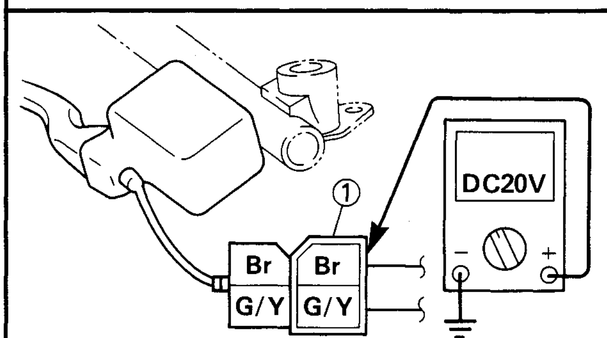
BAD CONDITION → Front brake switch is faulty, replace it.

GOOD CONDITION

3. Voltage check

• Connect the Pocket Tester (DC20V) to the front brake switch.

Tester (+) Lead→Brown ① Lead
Tester (−) Lead→Frame Ground



• Check for voltage (6V) on the "Brown" lead at the brake switch coupler.

OUT OF SPECIFICATION → Wiring circuit from main switch to brake switch connector is faulty, repair.

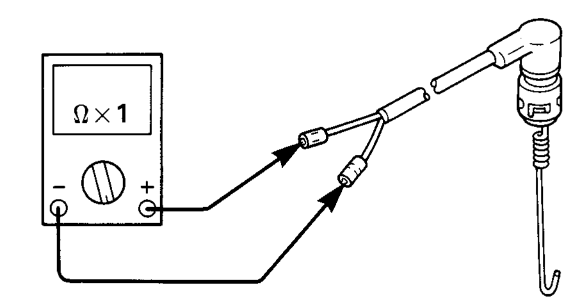
MEETS SPECIFICATION (6V)

*

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4. Rear brake switch check

- Disconnect the rear brake switch leads (Brown and Yellow) from the wireharness.
- Connect the Pocket Tester (Ω × 1) to the brake switch lead.



- Check the brake switch for continuity.

Switch position	Good condition	Bad condition		
Rear brake is applied.	○	×	×	○
Rear brake is not applied	×	○	×	○

○: Continuity ×: Nocontinuity

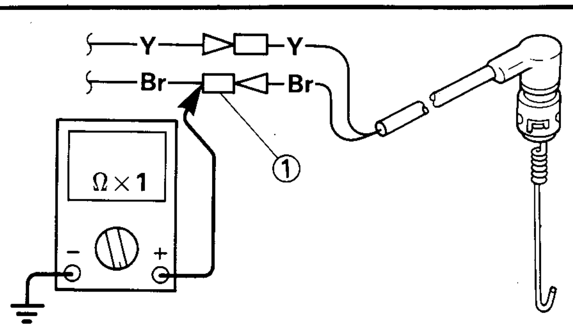
BAD CONDITION → Rear brake switch is faulty, replace it.

GOOD CONDITION

5. Voltage check

- Connect the Pocket Tester (DC20V) to the rear brake switch.

Tester (+) Lead→Brown ① Lead
Tester (−) Lead→Frame Ground



•Check for voltage (6V) on the "Brown" lead at the brake switch connecter.

OUT OF SPECIFICATION → Wiring circuit from main switch to brake switch connector is faulty, repair.

MEETS SPECIFICATION (6V) ↓

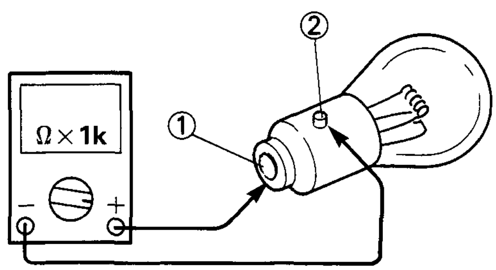
Tail/Brake light bulb socket is faulty, replace tail/brake light assembly.

3. Flasher lights do not blink.

1. Bulb check

•Remove the flasher light bulb.
•Connect the Pocket Tester (Ω×1k) to the bulb.

Tester (+) Lead→Terminal ①
Tester (−) Lead→Terminal ②



•Check the bulb for continuity.

NOCONTINUITY → Bulb is faulty, replace it.

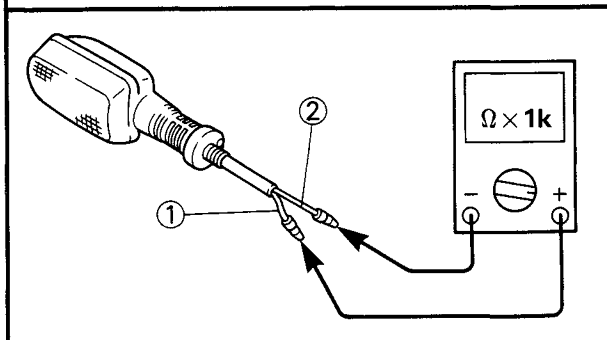
CONTINUITY ↓

2. Bulb socket check

•Install the bulb to the socket.
•Disconnect the flasher light leads [(Chocolate and Black) or (Dark green and Black)]
•Connect the Pocket Tester (Ω×1k) to the flasher light leads.

When checking right flasher light:
Tester (+) Lead→Dark Green ① Lead
Tester (−) Lead→Black ② Lead

When checking left flasher light:
Tester (+) Lead→Chocolate ① Lead
Tester (−) Lead→Black ② Lead



- Check the bulb socket for continuity.

NOCONTINUITY

Bulb socket is faulty, replace flasher light assembly.

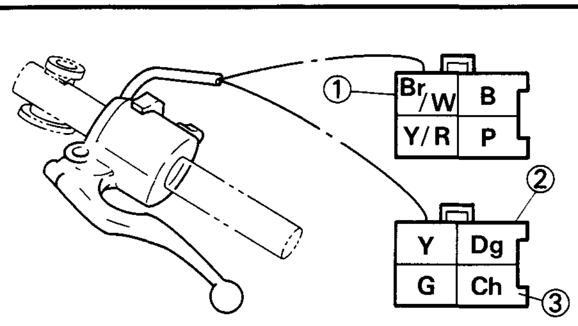
CONTINUITY

3. "TURN" switch check

- Disconnect the handlebar switch couplers [(Chocolate, Dark green, Yellow and Green) (Black, Pink, Yellow/Red and Brown/White)] from the wireharness.
- Connect the Pocket Tester (Ω×1) to the "TURN" switch leads.

When turning "TURN" switch to "R":
Tester (+) Lead→Brown/White ① Lead
Tester (−) Lead→Dark green ② Lead

When turning "TURN" switch to "L":
Tester (+) Lead→Brown/White ① Lead
Tester (−) Lead→Chocolate ③ Lead



- Turn the "TURN" switch to the "R" and "L".
- Check the "TURN" switch for continuity.

Switch position	Good condition	Bad condition		
R	○	×	○	×
L	○	○	×	×

○: **Continuity** ×: **Nocontinuity**

BAD CONDITION

"TURN" switch is faulty, replace handlebar switch.

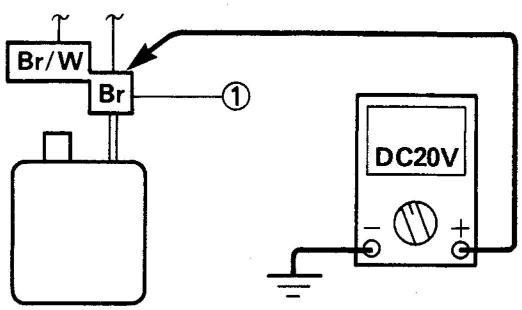
GOOD CONDITION
*

*

4. Voltage check

- Connect the Pocket Tester (DC20V) to the flasher relay.

Tester (+) Lead→Brown ① Lead
Tester (−) Lead→Frame Ground



- Check for voltage (6V) on the "Brown" lead at the flasher relay terminal.

OUT OF SPECIFICATION

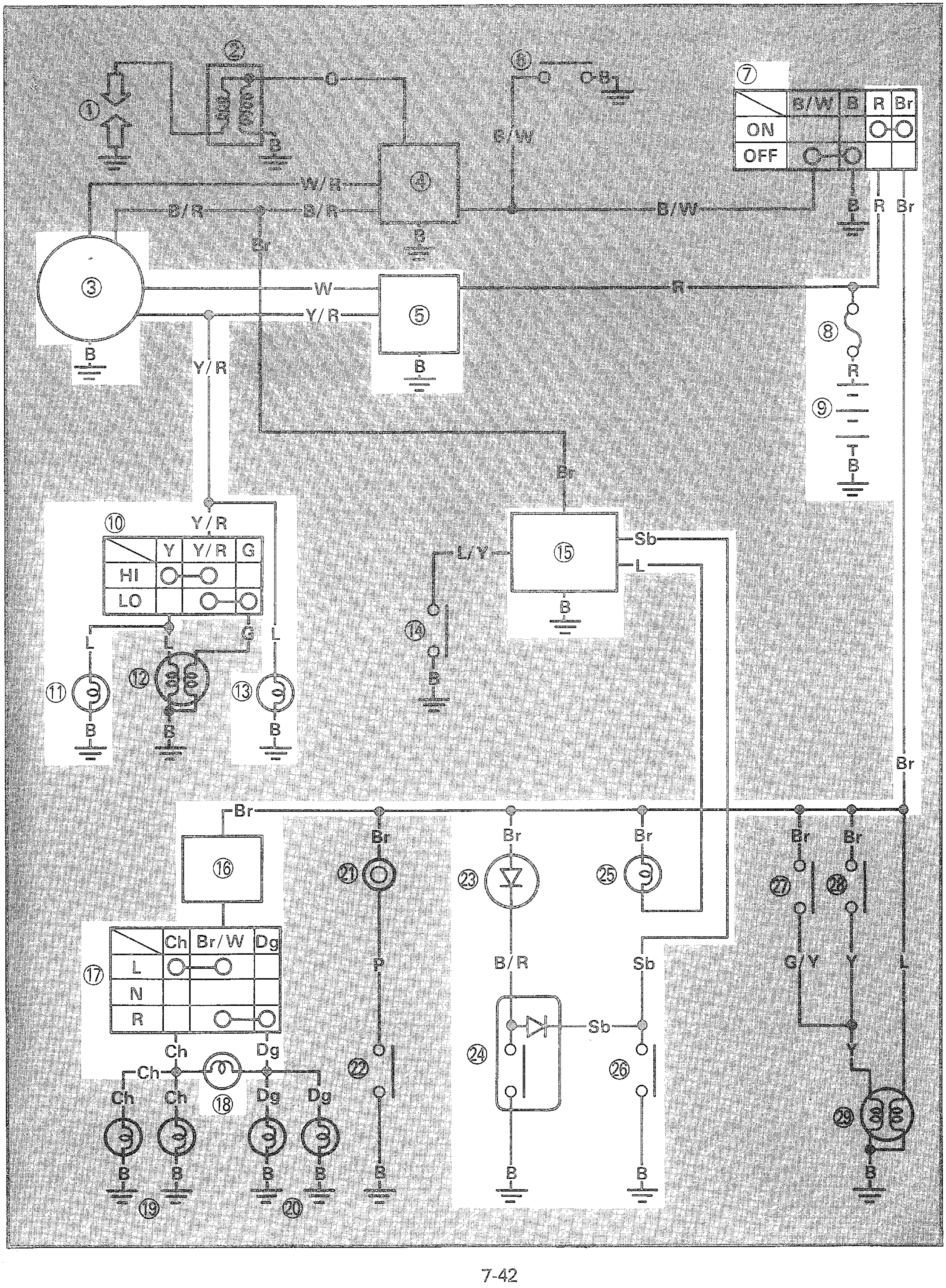
Wiring circuit from main switch to flasher relay connector is faulty, repair.

MEET SPECIFICATION (6V)

Flasher relay is faulty, replace it.

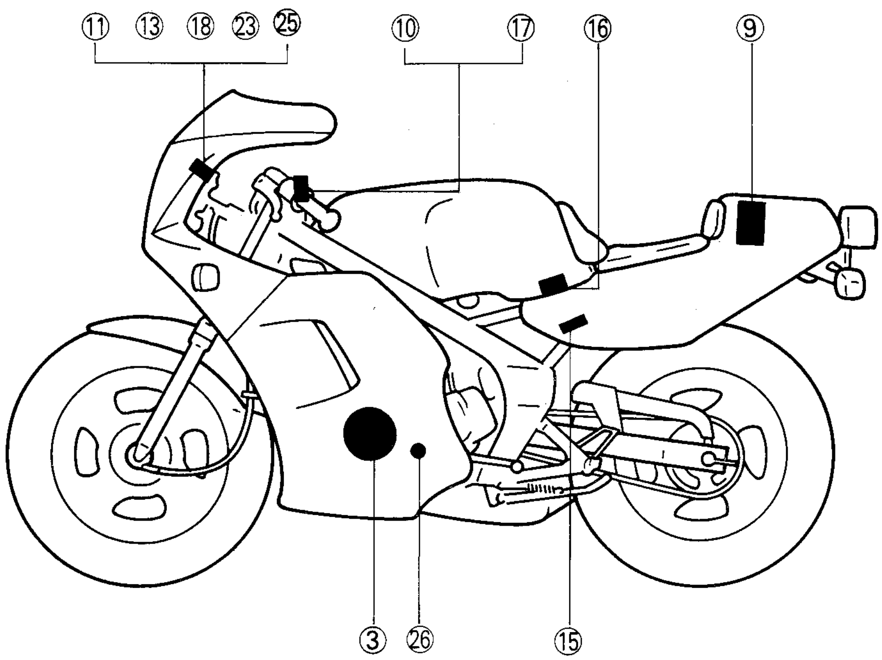
DISPLAY SYSTEM

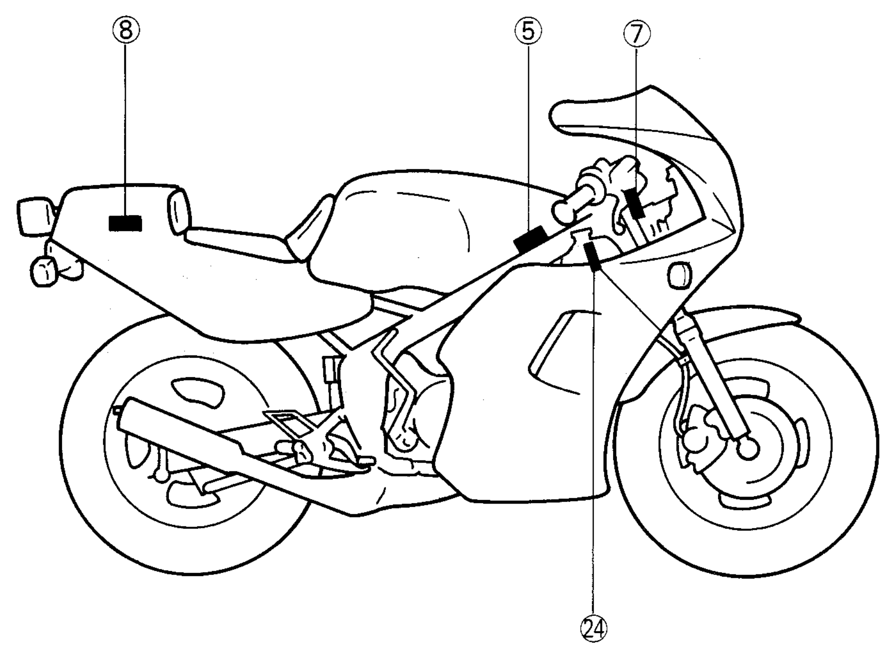
Below circuit diagram shows display system.



NOTE:
For the color codes, see page 7-2.

③ CDI magneto
⑤ Rectifier/Regulator
⑦ Main switch
⑧ Fuse
⑨ Battery
⑩ "LIGHTS" (Dimmer) switch
⑪ "HIGH BEAM" indicator light
⑬ Meter light
⑮ Ignition control unit
⑯ Flasher relay
⑰ "TURN" switch
⑱ "TURN" indicator light
㉓ "OIL" warning indicator light
㉔ Oil level switch
㉕ "NEUTRAL" indicator light
㉖ Neutral switch





TROUBLESHOOTING (1)

METER LIGHT AND/OR "HIGH BEAM" INDICATOR LIGHT DO NOT COME ON.

Procedure

Check;

1) Meter light and "HIGH BEAM" indicator light
2) "LIGHTS" (Dimmer) switch
3) Lighting circuit output
4) Lighting coil resistance
5) Wiring connection

NOTE:

- Remove the following parts before troubleshooting.
  1) Seat
  2) Side cover
- Use the following special tool(s) in this troubleshooting.

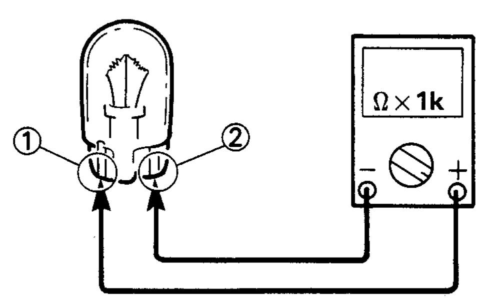
Pocket Tester:
YU-03112

Inductive Tachometer:
YU-08036

1. Meter light and "HIGH BEAM" indicator light

- Remove the bulb (Meter light or "HIGH BEAM" indicator light).
- Connect the Pocket Tester (Ω×1k) to the bulb.

Tester (+) Lead→Terminal ①
Tester (−) Lead→Terminal ②



- Check the bulb for continuity.

NOCONTINUITY → Bulb is faulty, replace it.

CONTINUITY ↓

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*

2. "LIGHTS" (Dimmer) switch

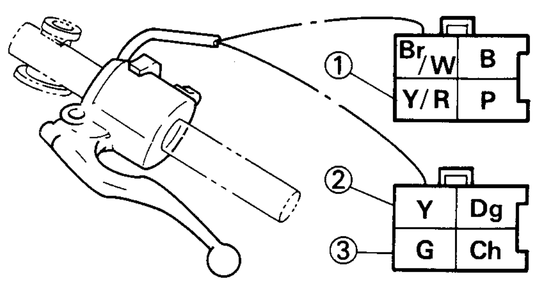
- Disconnect the handlebar switch couplers [(Chocolate, Green, Dark green and Yellow) (Black, Pink, Yellow/Red and Brown/White)] from the wireharness.
- Connect the Pocket Tester (Ω×1) to the "LIGHTS" (Dimmer) switch leads.

When turning "LIGHTS" (Dimmer) switch to "HI":

Tester (+) Lead→Yellow/Red ① Lead
Tester (−) Lead→Yellow ② Lead

When turning "LIGHTS" (Dimmer) switch to "LO":

Tester (+) Lead→Yellow/Red ① Lead
Tester (−) Lead→Green ③ Lead



- Turn the "LIGHTS" (Dimmer) switch to the "HI" and "LO".
- Check the "LIGHTS"' (Dimmer) switch for continuity.

Switch position	Good condition	Bad condition		
HI	○	×	○	×
LO	○	○	×	×

○: Continuity ×: Nocontinuity

BAD CONDITION

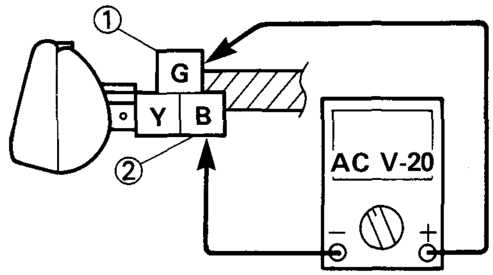
"LIGHTS" (Dimmer) switch is faulty, replace handlebar switch.

GOOD CONDITION

3. Lighting circuit output

- Turn the "LIGHTS" (Dimmer) switch to "LO".
- Connect the Pocket Tester (AC V-20) to the headlight leads.

Tester (+) Lead→Green ① Lead
Tester (−) Lead→Black ② Lead



- Connect the Inductive Tachometer to the spark plug lead.
- Start the engine and check the output voltage.

CAUTION:

Do not run the engine in neutral above 6,000 r/min for more than 1 or 2 seconds.

Standard Output:
6.2~7.2V at 3,000 r/min or More

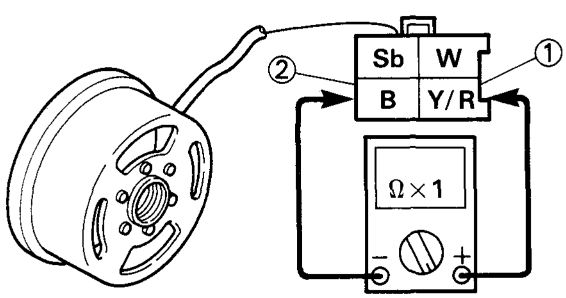
MEETS SPECIFICATION → Bulb socket is faulty, replace it.

OUT OF SPECIFICATION ↓

4. Lighting coil resistance

- Disconnect the CDI magneto coupler (Sky blue, White, Black and Yellow/Red) from the wireharness.
- Connect the Pocket Tester (Ω × 1) to the lighting coil leads.

Tester (+) Lead→Yellow/Red ① Lead
Tester (−) Lead→Black ② Lead



- Check the lighting coil for specificated resistance.

Lighting Coil Resistance:
0.16 ~ 0.24Ω at 20°C (68°F)
(Yellow/Red — Black)

OUT OF SPECIFICATION → Lighting coil is faulty, replace it.

MEETS SPECIFICATION ↓

5. Wiring connection

Check the entire display system for connections. Refer to the "WIRING DIAGRAM" section.

POOR CONNECTION → Correct.

CORRECT ↓

Rectifier/Regulator is faulty, replace it.

TROUBLESHOOTING (2)

"TURN", "NEUTRAL" INDICATOR LIGHT AND/OR "OIL" WARNING INDICATOR LIGHT DO NOT COME ON.

Procedure

Check;
1) Fuse
2) Battery
3) Main switch
4) Wiring connection

NOTE:

- Remove the following parts before troubleshooting.
  1) Seat
  2) Side cover
- Use the following special tool(s) in this troubleshooting.

Pocket Tester:
YU-03112

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1. Fuse

- Remove the fuse.
- Connect the Pocket Tester (Ω × 1) to the fuse.
- Check the fuse for continuity.

NOCONTINUITY → Fuse is faulty, replace it.

CONTINUITY ↓

2. Battery

- Check the battery condition.
  Refer to the "BATTERY INSPECTION" section in the CHAPTER 3.

Specific Gravity:
1.280 at 20°C (68°F)

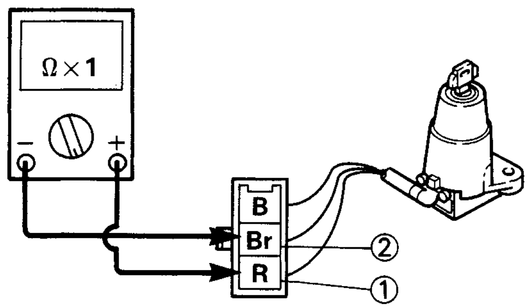
INCORRECT →
- Refill battery fluid.
- Clean battery terminals.
- Recharge or replace battery.

CORRECT ↓

3. Main switch

- Disconnect the main switch coupler (Red, Brown and Black) from the wireharness.
- Connect the Pocket Tester (Ω × 1) to the main switch leads.

Tester (+) Lead→Red ① Lead
Tester (−) Lead→Brown ② Lead



- Turn the main switch to "ON" and "OFF".
- Check the main switch for continuity.

Switch position	Good condition	Bad condition		
ON	○	×	×	○
OFF	×	○	×	○

○: **Continuity** ×: **Nocontinuity**

BAD CONDITION → Main switch is faulty, replace it.

GOOD CONDITION ↓

4. Wiring connection

Check the entire display system for connections. Refer to the "WIRING DIAGRAM" section.

INCORRECT → Correct.

CORRECT ↓

Go to the "DISPLAY SYSTEM TEST AND CHECK" section.

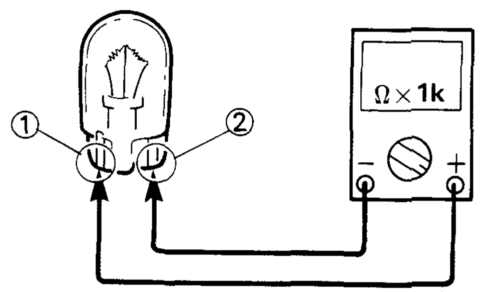
DISPLAY SYSTEM TEST AND CHECK

1. "NEUTRAL" indicator light does not come on.

1. Bulb check

- Remove the bulb.
- Connect the Pocket Tester (Ω×1k) to the bulb.

Tester (+) Lead→Terminal ①
Tester (−) Lead→Terminal ②



- Check the bulb for continuity.

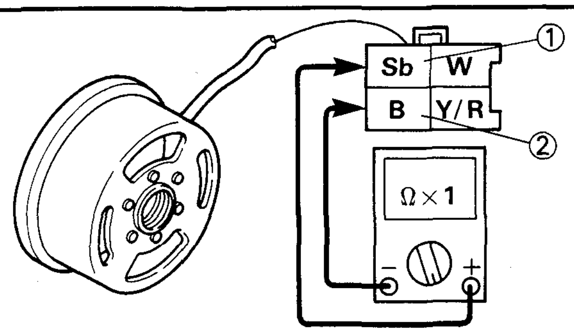
NOCONTINUITY → Bulb is faulty, replace it.

CONTINUITY ↓

2. Neutral switch check

- Disconnect the CDI magneto coupler (Sky blue, White, Black and Yellow/Red) from the wireharness.
- Connect the Pocket Tester (Ω×1) to the neutral switch leads.

Tester (+) Lead→Sky blue ① Lead
Tester (−) Lead→Black ② Lead



- Shift the transmission in neutral and gear.
- Check the neutral switch for continuity.

Trans-mission position	Good condition	Bad condition		
Neutral	○	×	×	○
Gear	×	○	×	○

○: Continuity ×: Nocontinuity

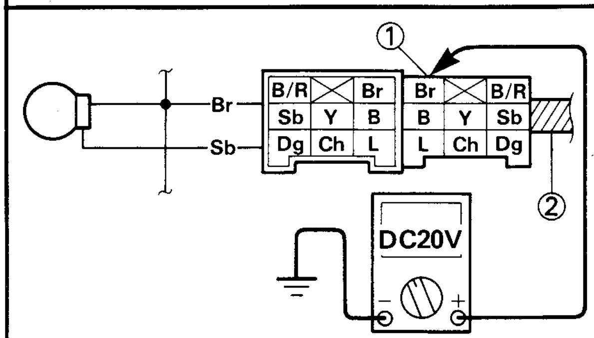
BAD CONDITION → Neutral switch is faulty, replace it.

GOOD CONDITION ↓

3. Voltage check

- Connect the Pocket Tester (DC20V) to the "NEUTRAL" indicator light lead.

Tester (+) Lead→Brown ① Lead
Tester (−) Lead→Frame Ground



② Wireharness
- Check for voltage (6V) on the "Brown" lead at the connector.

OUT OF SPECIFICATION → Wiring circuit from main switch to "NEUTRAL" indicator light connector is faulty, repair.

MEETS SPECIFICATION (6V) ↓

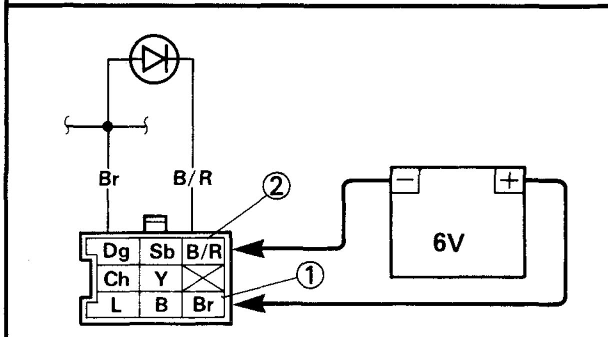
Ignition control unit is faulty, replace it.

2. "OIL" warning indicator light does not come on.

1. "OIL" warning indicator light (L.E.D.) check

- Disconnect the meter coupler (Black/Red, Brown, Sky blue, Yellow, Black, Dark green, Chocolate and Blue) from the wireharness.
- Connect a full charged battery (6V) to the meter coupler.

Battery (+) Lead→Brown ① Lead
Battery (−) Lead→Black/Red ② Lead



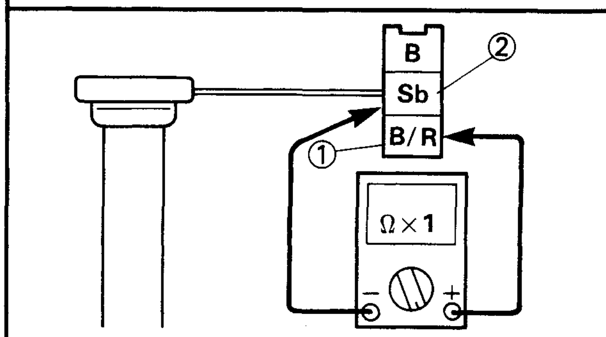
INDICATOR LIGHT DOES NOT COME ON. → "OIL" warning indicator light (L.E.D.) is faulty, replace it.

INDICATOR LIGHT COMES ON. ↓

2. Oil level switch check (1)

- Remove the oil level switch from the oil tank.
- Connect the Pocket Tester (Ω×1) to the oil level switch lead.

Tester (+) Lead→Black/Red ① Lead
Tester (−) Lead→Sky blue ② Lead



- Check the oil level switch for continuity.

NOCONTINUITY → Oil level switch is faulty, replace it.

CONTINUITY ↓

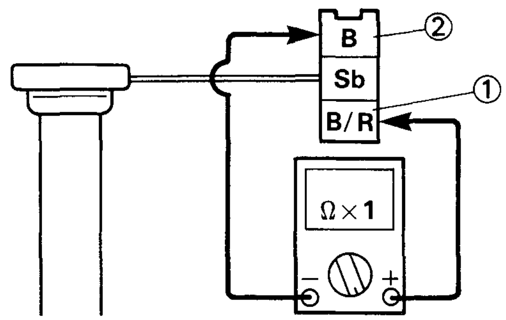
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3. Oil level switch check (2)

- Connect the Pocket Tester (Ω × 1) to the oil level switch.

Tester (+) Lead→Black/Red ① Lead
Tester (−) Lead→Black ② Lead



- Check the oil level switch for continuity.

Switch position	Good condition	Bad condition		
Upright position	○	×	×	○
Up-side down position	×	○	×	○

○: Continuity ×: Nocontinuity

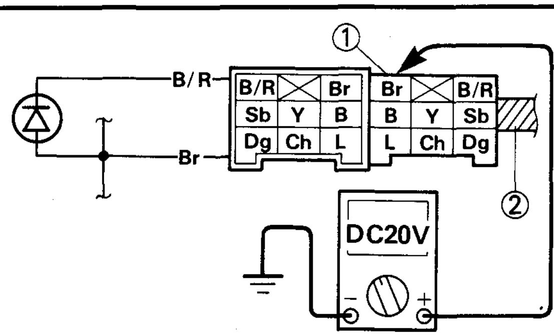
BAD CONDITION → Oil level switch is faulty, replace it.

GOOD CONDITION ↓

4. Voltage check

- Connect the Pocket Tester (DC20V) to the "OIL" warning indicator light.

Tester (+) Lead→Brown ① Lead
Tester (−) Lead→Frame Ground



② Wireharness

- Check for voltage (6V) on the "Brown" lead at connector.

OUT OF SPECIFICATION → Wiring circuit from main switch to "OIL" warning indicator light connecter is faulty, repair.

MEETS SPECIFICATION (6V) ↓

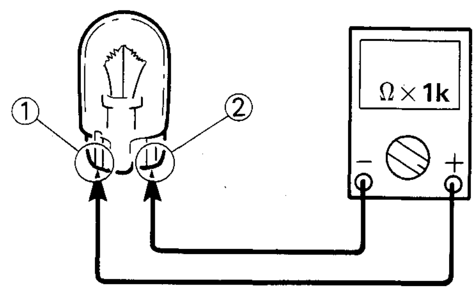
Wiring connection is faulty, correct.

3. "TURN" indicator light does not come on.

1. Bulb Check

- Remove the bulb.
- Connect the Pocket Tester (Ω×1k) to the bulb.

Tester (+) Lead→Terminal ①
Tester (–) Lead→Terminal ②



- Check the bulb for continuity.

NOCONTINUITY → Bulb is faulty, replace it.

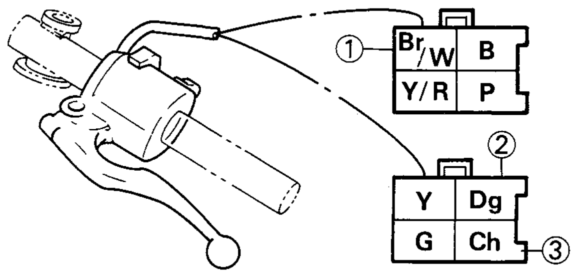
CONTINUITY ↓

2. "TURN" switch check

- Disconnect the handlebar switch couplers [(Chocolate, Dark green, Yellow and Green) (Black, Pink, Yellow/Red and Brown/White)] from the wireharness.
- Connect the Pocket Tester (Ω×1) to the "TURN" switch leads.

When turning "TURN" switch to "R":
Tester (+) Lead→Brown/White ① Lead
Tester (–) Lead→Dark green ② Lead

When turning "TURN" switch to "R":
Tester (+) Lead→Brown/White ① Lead
Tester (–) Lead→Chocolate ③ Lead



- Turn the "TURN" switch to the "R" and "L".
- Check the "TURN" switch for continuity.

Switch position	Good condition	Bad condition		
R	○	×	○	×
L	○	○	×	×

○: Continuity ×: Nocontinuity

BAD CONDITION

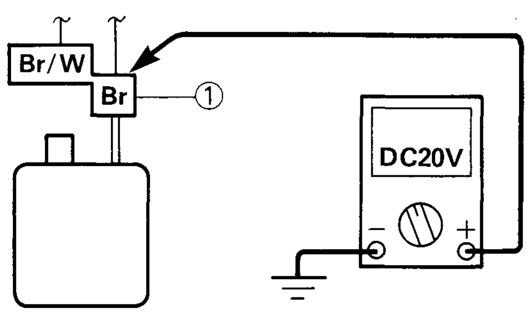
"TURN" switch is faulty, replace handlebar switch.

GOOD CONDITION

3. Voltage check

- Connect the Pocket Tester (DC20V) to the flasher relay.

Tester (+) Lead→Brown ① Lead
Tester (−) Lead→Frame Ground



- Check for voltage (6V) on the "Brown" lead at the flasher relay terminal.

OUT OF SPECIFICATION

Wiring circuit from main switch to flasher relay connector is faulty, repair.

MEET SPECIFICATION (6V)

Flasher relay is faulty, replace it.

TROUBLESHOOTING

NOTE:
The following troubleshooting does not cover all the possible causes of trouble. It should be helpful, however, as a guide to troubleshooting. Refer to the relative procedure in this manual for inspection, adjustment and replacement of parts.

STARTING FAILURE/HARD STARTING

FUEL SYSTEM	PROBABLE CAUSE
Fuel tank	•Empty •Clogged fuel filter •Clogged air passage (Fuel tank cap) •Deteriorated fuel or fuel containing water or foreign material
Fuel cock	•Clogged fuel hose
Carburetor	•Deteriorated fuel, fuel containing water or foreign material •Clogged pilot jet •Clogged pilot air passage •Sucked-in air •Deformed float •Groove-worn needle valve •Improperly sealed valve seat •Improperly adjusted fuel level •Improperly set pilot jet •Clogged starter jet •Starter plunger malfunction •Improperly adjusted starter cable
Air cleaner	•Clogged air filter

ELECTRICAL SYSTEM — **PROBABLE CAUSE**

- Spark plug
  - Improper plug gap
  - Worn electrodes
  - Wire between terminals broken
  - Improper heat range
  - Faulty spark plug cap
- Ignition coil
  - Broken or shorted primary/secondary
  - Faulty spark plug lead
  - Broken body
- C.D.I. unit system
  - Faulty C.D.I. unit
  - Faulty source coil
  - Faulty pick-up coil
  - Broken woodruff key
- Switches and wiring
  - Faulty main switch
  - Faulty engine stop switch
  - Broken or shorted wiring
  - Faulty neutral switch
  - Faulty sidestand switch
  - Faulty Ignition control unit

COMPRESSION SYSTEM — **PROBABLE CAUSE**

- Cylinder and cylinder head
  - Loose spark plug
  - Loose cylinder head or cylinder
  - Broken cylinder head gasket
  - Broken cylinder gasket
  - Worn, damaged or seized cylinder
- Piston and piston rings
  - Improperly installed piston ring
  - Worn, fatigued or broken piston ring
  - Seized piston ring
  - Seized or damaged piston
- Crankcase and crankshaft
  - Improperly seated crankcase
  - Improperly sealed crankcase (Damaged oil seal)
  - Seized crankshaft
- Reed valve
  - Deformed reed valve stopper
  - Improperly seated read valve
  - Loose intake manifold
  - Broken gasket
  - Broken reed valve

POOR IDLE SPEED PERFORMANCE

POOR IDLE SPEED PERFORMANCE — **PROBABLE CAUSE**

- Carburetor
  - Improperly returned starter plunger
  - Clogged or loose pilot jet
  - Clogged pilot air jet
  - Improperly adjusted idle speed (Throttle stop screw)
  - Improper throttle cable play
  - Flooded carburetor

POOR MEDIUM AND HIGH SPEED PERFORMANCE

FUEL SYSTEM

FUEL SYSTEM	PROBABLE CAUSE
Fuel tank	•Clogged fuel filter •Deteriorated fuel or fuel containing water or foreign material •Clogged air passage (Fuel tank cap)
Fuel cock	•Clogged fuel hose
Carburetor	•Deteriorated fuel, fuel containing water or foreign material •Sucked-in air •Deformed float •Groove-worn needle valve •Improperly sealed valve seat •Improperly set clip position of jet needle •Improperly adjusted fuel level •Clogged or loose main jet •Clogged or loose main nozzle
Air cleaner	•Clogged air filter

ELECTRICAL SYSTEM

ELECTRICAL SYSTEM	PROBABLE CAUSE
Spark plug	•Improper plug gap •Worn electrodes •Wire between terminals broken •Improper heat range •Faulty spark plug cap
C.D.I. unit system	•Faulty C.D.I. unit •Faulty source coil •Faulty pick-up coil

POOR MEDIUM AND HIGH SPEED PERFORMANCE

COMPRESSION SYSTEM	PROBABLE CAUSE
Cylinder and cylinder head	• Loose spark plug • Broken cylinder head gasket • Broken cylinder gasket • Loose cylinder head or cylinder • Worn, damaged or seized cylinder
Piston and piston ring	• Improperly installed piston ring • Worn, fatigued or broken piston ring • Seized piston ring • Seized or damaged piston
Crankcase and crankshaft	• Improperly seated crankcase • Improperly sealed crankcase (Damaged oil seal) • Seized crankshaft
Reed valve	• Deformed reed valve stopper • Improperly adjusted reed valve stopper height • Improperly seated reed valve • Loose intake manifold • Broken gasket • Broken reed valve

FAULTY GEAR SHIFTING

HARD SHIFTING

	PROBABLE CAUSE
Clutch	• Improperly adjusted clutch cable • Improperly adjusted push lever position • Improper engagement of push lever and push rod • Seized bush at primary driven gear • Warped clutch plate • Swollen friction plate • Broken clutch plate
Transmission oil	• High oil level • Improper quality (High viscosity) • Deterioration

CHANGE PEDAL DOES NOT MOVE

	PROBABLE CAUSE
Shift shaft	• Improperly adjusted shift rod • Bent shift shaft
Shift cam and shift fork	• Groove jammed with impurities • Seized shift fork • Bent shift fork guide bar
Transmission	• Seized transmission gear • Jammed impurities • Incorrectly assembled transmission

JUMP-OUT GEAR

	PROBABLE CAUSE
Shift shaft	• Improperly adjusted shift lever position • Improperly returned stopper lever
Shift fork	• Worn shift fork
Shift cam	• Improper thrust play • Worn shift cam groove
Transmission	• Worn gear dog

CLUTCH SLIPPING/DRAGGING

CLUTCH SLIPPING

PROBABLE CAUSE

- Clutch
  - Improperly adjusted clutch cable
  - Loose clutch spring
  - Fatigued clutch spring
  - Worn friction plate
  - Worn clutch plate
- Transmission oil
  - Low oil level
  - Improper quality (Low viscosity)
  - Deterioration

CLUTCH DRAGGING

PROBABLE CAUSE

- Clutch
  - Improperly adjusted clutch cable
  - Improperly adjusted pull lever position
  - Improper engagement of pull lever and pull rod
  - Seized bush at primary driven gear
  - Warped clutch plate
  - Swollen friction plate
  - Broken clutch boss
- Transmission oil
  - High oil level
  - Improper quality (High viscosity)
  - Deterioration

IMPROPER KICKING

SLIPPING

PROBABLE CAUSE

- Kick axle assembly
  - Low tension of kick clip
  - Worn kick axle
  - Worn or damaged kick idle gear
  - Worn or damaged kick gear
  - Damaged kick clip
  - Kick clip coming off
  - Damaged kick clip stopper
- Transmission oil
  - Improper quality (Low viscosity)
  - Deterioration

HARD KICKING

PROBABLE CAUSE

- Kick axle assembly
  - High tension of kick clip
  - Seized kick gear
  - Seized kick idle gear
- Transmission oil
  - Improper quality (High viscosity)
  - Deterioration
- Cylinder, piston and piston ring
  - Damaged or seized cylinder
  - Damaged or seized piston
  - Damaged or seized piston ring
- Crankcase and crankshaft
  - Improperly seated crankcase
  - Improperly seated crankshaft
  - Damaged or seized crankshaft
  - Damaged or seized crankshaft bearing

KICK CRANK NOT RETURNING

PROBABLE CAUSE

- Kick axle assembly
  - Damaged kick return spring
  - Kick return spring coming off
  - Kick clip coming off
  - Damaged kick return spring stopper

FAULTY BRAKE

POOR BRAKING EFFECT

PROBABLE CAUSE

Disc brake
- Worn brake pad
- Worn brake disc
- Air in brake fluid
- Leaking brake fluid
- Faulty cylinder kit cup
- Faulty caliper kit seal
- Loosen union bolt
- Broken brake hose
- Oily or greasy brake disc
- Oily or greasy brake pad
- Improper brake fluid level

Drum brake
- Worn brake shoe
- Worn or rusty brake drum
- Improperly adjusted brake cable/pedal free play
- Improper brake cam lever position
- Improper brake shoe position
- Fatigued or/damaged return spring
- Oily or greasy brake shoe
- Rusty, oily or greasy brake drum
- Broken brake cable

FRONT FORK OIL LEAKAGE AND FRONT FORK MALFUNCTION

OIL LEAKAGE

PROBABLE CAUSE

- Bent, damaged or rusty inner tube
- Damaged or cracked outer tube
- Damaged oil seal lip
- Improperly installed oil seal
- Improper oil level (too much)
- Loose damper rod holding bolt
- Broken cap bolt O-ring
- Loose drain bolt
- Damaged drain bolt gasket

MALFUNCTION

PROBABLE CAUSE

- Bent, deformed or damaged inner tube
- Bent or deformed outer tube
- Damaged fork spring
- Worn or damaged slide metal
- Bent or damaged damper rod
- Improper oil viscosity
- Improper oil level

INSTABLE HANDLING

INSTABLE HANDLING

INSTABLE HANDLING	PROBABLE CAUSE
Handlebars	• Improperly installed or bent
Steering	• Improperly installed handle crown • Bent under-bracket • Improperly installed steering shaft (Improperly tightened ringnut) • Damaged ball bearing or bearing race
Front forks	• Uneven oil levels on both sides • Uneven spring tension (Uneven damping adjuster position) • Broken spring • Twisted front forks
Tires	• Uneven tire pressures on both sides • Incorrect tire pressure • Unevenly worn tires
Wheels	• Incorrect wheel balance • Deformed cast wheel • Loose bearing • Bent or loose wheel axle • Excessive wheel run-out
Frame	• Twisted • Damaged head pipe • Improperly installed bearing race
Swingarm	• Worn bearing or bush • Bent or damaged
Rear shock absorber	• Fatigued spring • Improperly adjusted spring preload • Oil leakage
Drive chain	• Improperly adjusted chain slack
Cowl	• Damaged or broken • Incorrectly installed

FAULTY SIGNAL AND LIGHTING SYSTEM

HEADLIGHT DARK

PROBABLE CAUSE

- Improper bulb
- Too many electric accessories
- Hard charging (Broken charging coil and/or faulty rectifier/regulator)
- Incorrect connection
- Improperly grounded
- Poor contacts (main or light switch)
- Bulb life expired

BULB BURNT OUT

PROBABLE CAUSE

- Improper bulb
- Faulty battery
- Faulty rectifier/regulator
- Improperly grounded
- Faulty main and/or light switch
- Bulb life expired

FLASHER DOES NOT LIGHT

PROBABLE CAUSE

- Improperly grounded
- Discharged battery
- Faulty flasher switch
- Faulty flasher relay
- Broken wireharness
- Loosely connected coupler
- Bulb burnt out

FLASHER KEEPS ON

PROBABLE CAUSE

- Faulty flasher relay
- Insufficient battery capacity (nearly discharged)
- Bulb burnt out

FLASHER WINKS SLOWER

PROBABLE CAUSE
- Faulty flasher relay
- Insufficient battery capacity (nearly discharged)
- Improper bulb
- Faulty main and/or flasher switch

FLASHER WINKS QUICKER

PROBABLE CAUSE
- Improper bulb
- Faulty flasher relay

HORN IS INOPERATIVE

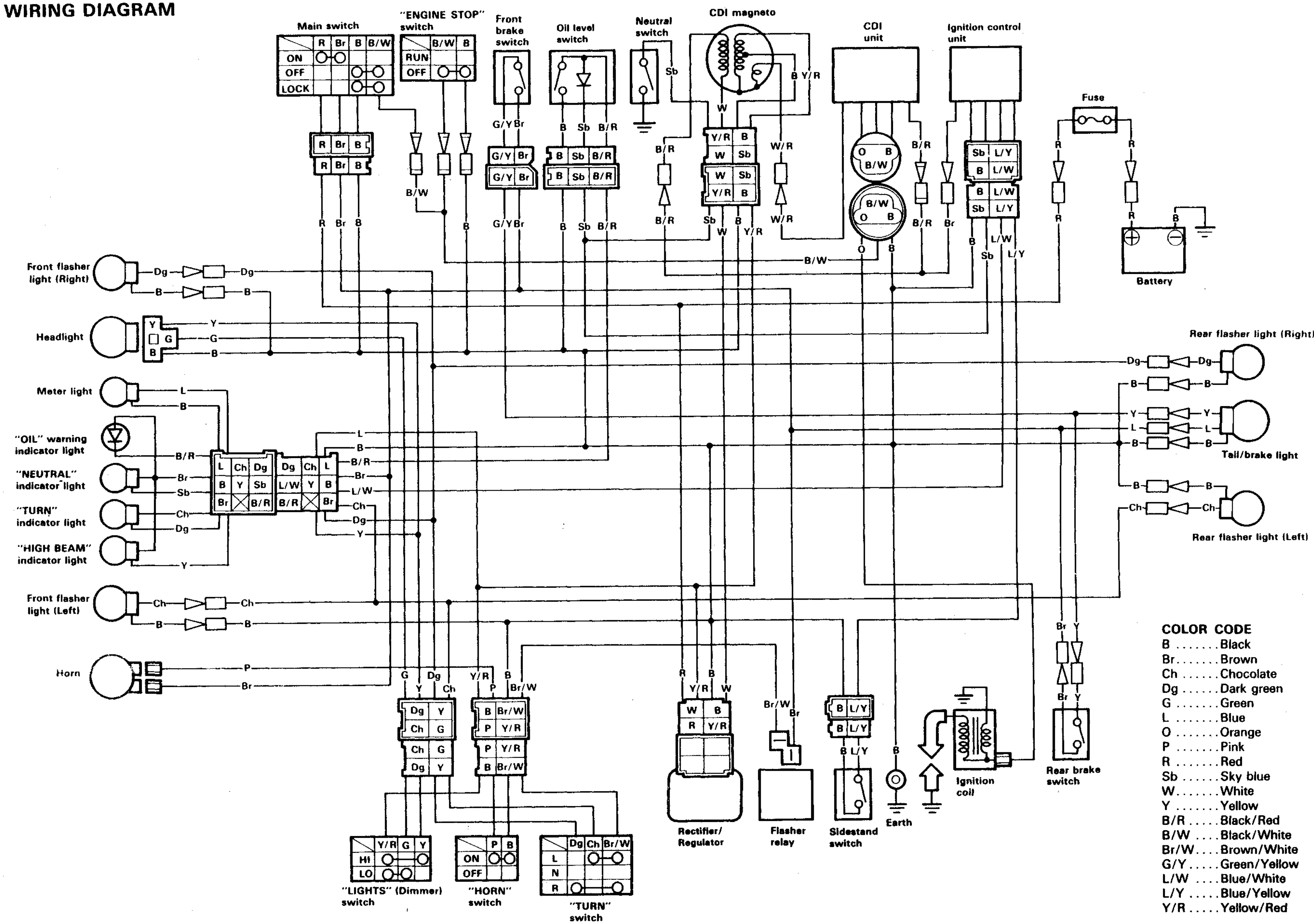
PROBABLE CAUSE
- Faulty battery
- Faulty main and/or horn switch
- Improperly adjusted horn
- Faulty horn
- Broken wireharnes

OVERHEATING

OVERHEATING — **PROBABLE CAUSE**

- Ignition system
  - •Improper spark plug gap
  - •Improper spark plug heat range
  - •Faulty C.D.I. unit
- Fuel system
  - •Improper carburetor main jet (Improper setting)
  - •Improperly adjusted fuel height
  - •Clogged air cleaner element
  - •Lean mixture (Faulty autolube pump settings)
- Compression system
  - •Heavy carbon build-up
- Transmission oil
  - •Incorrect oil level
  - •Improper oil viscosity
  - •Inferior oil quality
- Brake
  - •Dragging brake
- Clutch
  - •Worn friction plate
  - •Worn clutch plate

YSR50T WIRING DIAGRAM



COLOR CODE
B .... Black
Br....... Brown
Ch ...... Chocolate
Dg ...... Dark green
G .... Green
L .... Blue
O .... Orange
P .... Pink
R .... Red
Sb ...... Sky blue
W....... White
Y .... Yellow
B/R ..... Black/Red
B/W .... Black/White
Br/W.... Brown/White
G/Y..... Green/Yellow
L/W .... Blue/White
L/Y ..... Blue/Yellow
Y/R ..... Yellow/Red